

# سپی سیر

ویرایش ۱۴۰۱



## زبان انگلیسی

مدیریت تدوین:	مؤلف:
دکتر صادق شفائی	مهدی نامرقندی
حسین فرجی	



خداوند فرمود، هیچ نترسید همانا من با شما هستم.  
(و همه چیز را) می شنوم و می بینم.

«سوره طه آیه ۴۶»

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زبان انگلیسی

ویرایش ۱۴۰۱ مرکز علمی ایران شهر  
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کپی کردن کتاب مصداق عینی دزدی است؛  
استفاده از فایل کتاب مصداق عینی دزدی است؛  
شما دزد نیستید!

پس کتاب را کپی نکنید، از فایل های غیرقانونی استفاده نکنید و  
سارقین مجازی را معرفی کنید تا جامعه سالم بماند.

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تمام حقوق مادی و معنوی این اثر برای ناشر محفوظ است. مطابق قانون اقدام به کپی کتاب به هر شکل (از جمله کپی کاغذی یا انتشار در فضای مجازی) شرعاً حرام و قانوناً جرم محسوب شده و حق پیگیری و شکایت در دادگاه برای ناشر محفوظ است.



برای خواندن مقدمه و دیدن  
ویژگی‌های اختصاصی این  
درس، اینجا رو اسکن کن.



کتابخانه دانشگاه علوم پزشکی ابرانشهر

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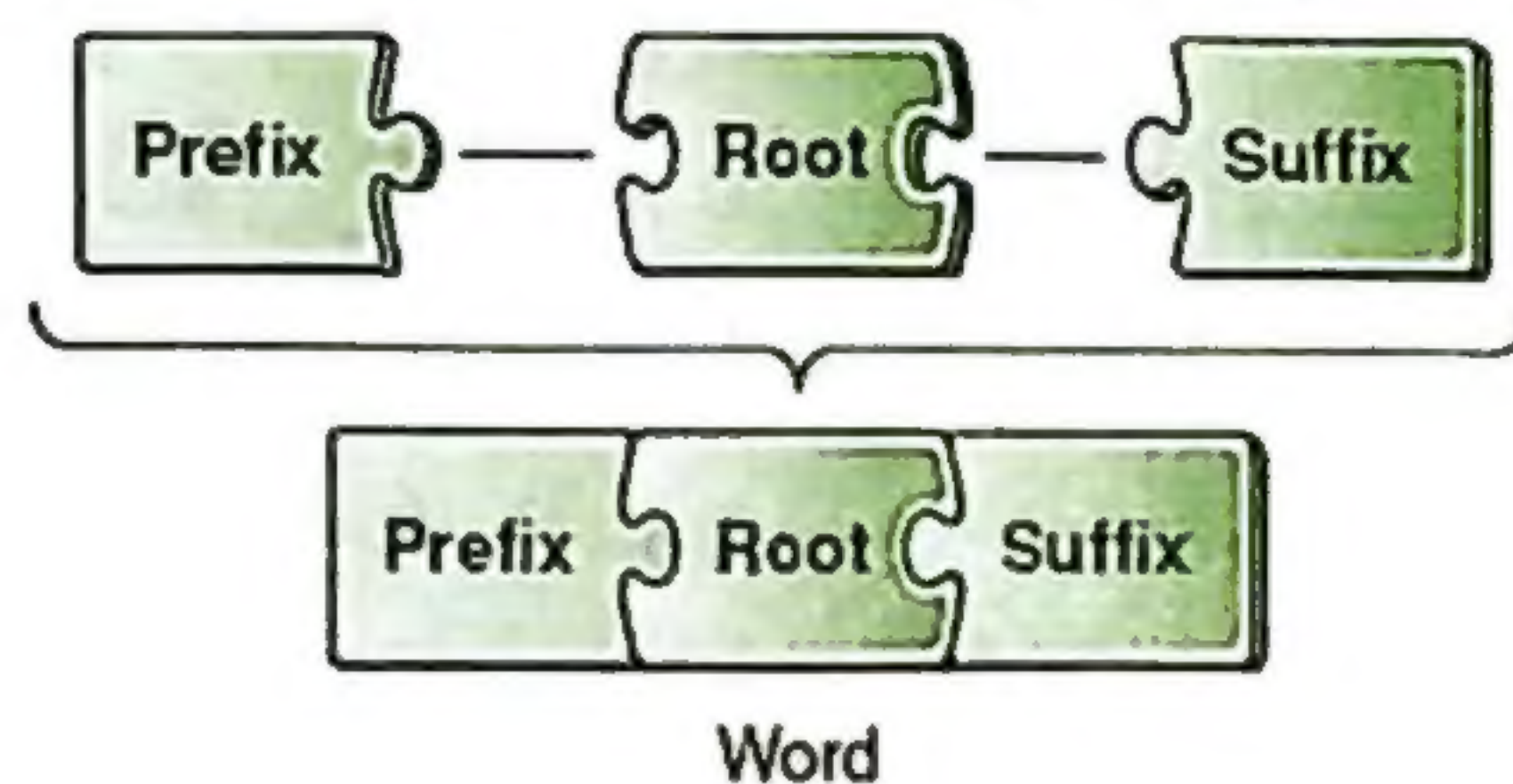
## اصول مدیکال ترمینولوژی Basics of Medical Terminology

## فصل ۱ Unit 1

✓ مقدمه

خب قبل از اینکه شروع کنیم به توضیح کوچیکی بدم. مدیکال ترمینولوژی (واژگان مربوط به پزشکی) یک مجموعه‌ای از کلمات خاص هستند که توسط دکترها و پرستارها و اینا استفاده میشن تا ارتباطش دقیق‌تر و موثرتر باشه. هر تخصص مرتبط با بهداشتی نیاز به فهمیدن مدیکال ترمینولوژی داره و خب ما هم تو این کتاب میخوایم دستگاه بررسی کنیم که با این کلمات آشنا بشیم. از اونجایی که مدیکال ترمینولوژی براساس کلمات لاتین و یونانی هست، ساختارش همه جای دنیا یکسانه و ثابت و واحده. این روش خیلی موثر هستش، اگرچه بعضی کلمات طولانی هستن ولی همون کلمات طولانی اومدن جملات طولانی‌تر رو کوچیک کردن تا به کلمه ایجاد بشه. مثلاً *gastroduodenostomy* یعنی «ایجاد منفذ جهت ارتباط بین معده و اولین بخش روده‌ی کوچک». بخش *gastr* یعنی معده، بخش *duoden* به معنای بخش اول روده کوچک هست و بخش *ostomy* به معنای ایجاد ارتباط یا منفذ هست.

دنیای واژگان پزشکی خیلی بزرگه و یادگیریش جوریه که انگار داری کل واژه‌های یه زبان دیگه رو یاد میگیری و حتی مدام هم این دایره لغات داره گسترده میشه! مثلاً به کلماتی که در رابطه با کامپیوتر به واژگان اضافه شدن نگاه کن: نرم افزار، موتور جست و جو، USB، اپلیکیشن، وبلاگ و غیره. یادگیری این لغات شاید به نظر خسته کننده یا اصلاً نشدنی باشه ولی روش‌هایی هست که بهت تو یادگیری و به یادآوری لغات و حتی تو حدس زدن معنی یه لغتی تا حالا نشنیدی کمک میکنه. تو این کتاب از همین روش‌ها استفاده کردیم. بیشتر عبارت‌های پزشکی میتونن به اجزای کوچیک‌تری تقسیم بشن: ریشه (root)، پیشوند (prefix) و پسوند (suffix) که این اجزا تو هر کلمه‌ای باشن معناشون تغییر نمیکنه. با یاد گرفتن معنی این اجزا، میتونی خیلی از کلمات دیگه رو حفظ و آنالیز کنی. دیگه مقدمه همین حد بسه... بریم تو کار!



### اجزای کلمه (Word Parts)

اجزای کلمه در سه دسته قرار می‌گیرن:

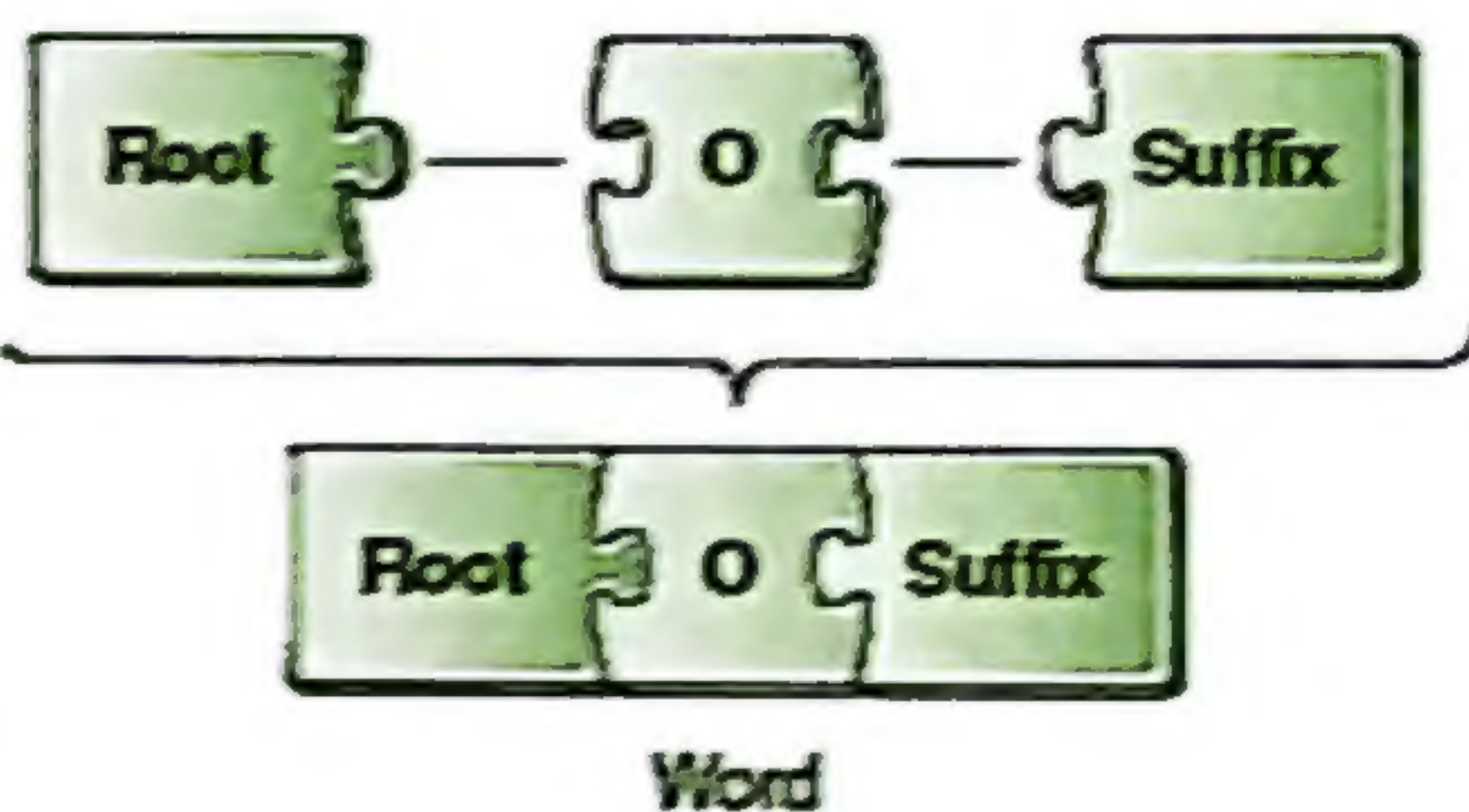
۱. ریشه (root) واحد اصلی هر واژه‌ی مدیکال هست اساس معنی کلمه رو تشکیل میده و بخشی هست که اجزای تغییری دهنده‌ی معنی به اون اضافه میشن. پس پیشوند و پسوند میان به ریشه می‌چسبن.
  ۲. پسوند (suffix) یک جزء کوتاه یا مجموعه‌ای از اجزای کوچیک هستن که به انتها (یا همون بعد) ریشه اضافه میشن تا معنای رو تغییر بدن. در ادامه کتاب هر ما سافیکس رو با یه خط تیره قبلش نشون دادیم مثلاً اینجوری *-itis* (به معنای التهاب).
  ۳. پیشوند (prefix) یک جزء کوتاه از کلمه هست که قبل از ریشه اضافه میشه و معنی اونو تغییر میده. در ادامه کتاب ما بعد از پیشوند خط تیره قرار میدیم تا نشونش بدیم مثلاً اینجوری *pre-* (به معنای قبل).
- بنابراین کلمات از ریشه و پسوند و پیشوند تشکیل شدن. یه مثال بزنیم حالا مثلاً یه کلمه ساده مثل *learn* یعنی «یاد گرفتن». این رو ما ریشه در نظر بگیریم. اگر پسوند *-er* رو انتهایش اضافه کنیم میشه *learner* یعنی «کسی که یاد میگیره». اگر پیشوند *re-* رو اضافه کنیم به ریشمون میشه *relearn* یعنی «دوباره یاد گرفتن». شایان ذکر هست که تمام ریشه‌ها کلمات کاملی برای خودشون نیست مثل همین *learn* که معنی بده به تنهایی. درواقع اکثر ریشه‌های مدیکال از زبان‌های مختلف گرفته شدن و جوری هستن که حتماً باید در ترکیب با چیزای دیگه استفاده بشن. مثلاً واژه‌ی لاتین *pulmo* به معنای «ریه» که ریشش در اصل *pulm* هست و به تنهایی به کار نمیره حتماً باید به یه چیزی بچسبه. در برخی موارد ریشه‌های لاتین و یونانی مختلف برای یک چیز به کار میرن؛ مثلاً ریشه یونانی *nephro* و ریشه لاتین *ren* هر دو اشاره به «کلیه» دارن.



همچنین اینم بدون که برخی ریشه‌ها در تخصص‌ها و فیلدهای مختلف معنای متفاوتی میدن. دقیق مثل واژه web یا cloud یا tweet که تو زبان کامپیوتر با تو زمان عادیمون معنایش متفاوت. ریشه *myel* به معنای «مغز» ممکنه که هم برای مغز استخوان و هم برای نخاع به کار بره یا مثلا ریشه *scler* به معنای «سخت، سفت» ممکنه برای سفیدی چشم هم به کار بره یا ریشه *cyst* معنای «یک کیسه پر» میده ولی به طور اختصاصی مثانه هم معنی میده. در نتیجه گاهی اوقات شما باید محتوا رو بدونین که یک کلمه رو معنی کنین.

یک کلمه مرکب (compound word) دارای بیش از یک ریشه هست. تو فارسی هم داریم اینطوری مثلا «کتاب خانه» که یک کلمه هست ولی هر جزء جداگونه میتونه ریشه باشه. مثال انگلیسی هم مثلا *eyeball* یا *wheelchair*. چندتا مثال هم از کلمات مرکب مدیکال بزیم مثل *cardiovascular* (مربوط به قلب و عروق) یا *urogenital* (مربوط به دستگاه ادراری و تولید مثل) یا *lymphocyte* (یک گلبول سفیدی که در دستگاه لنفاوی دیده میشه).

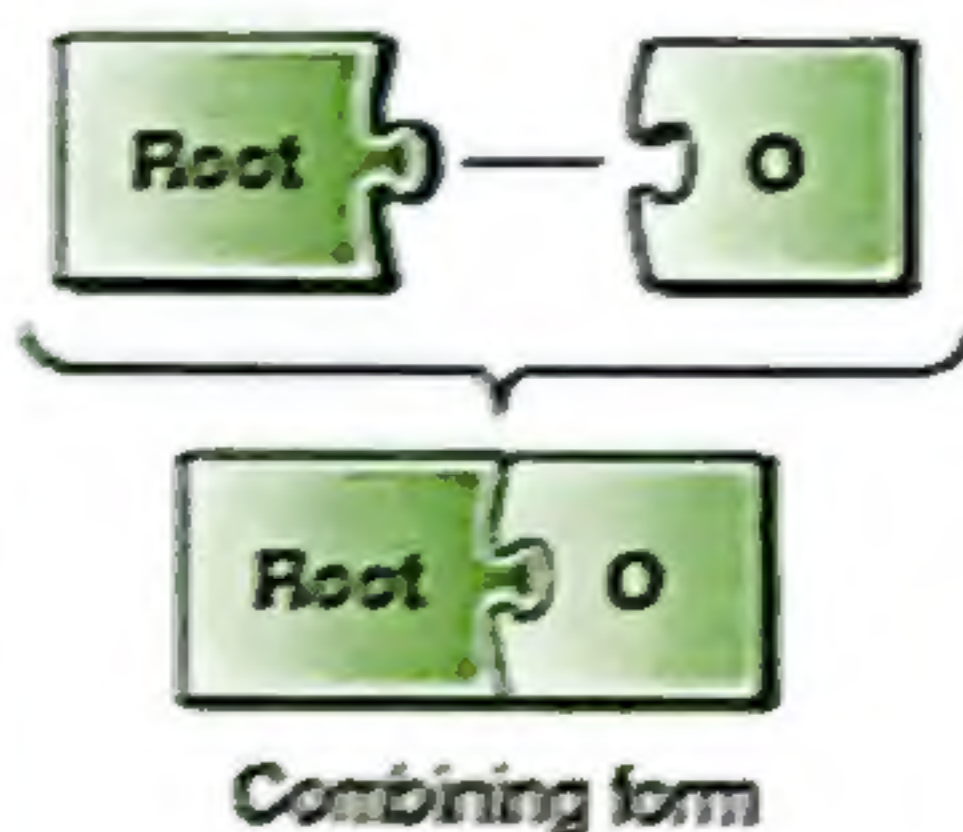
### ◆ فرم‌های ترکیبی (Combining Forms)



وقتی یه پسوند یا یک ریشه‌ی دیگه با یه حرف صامت (بی صدا) شروع میشن و به ریشه اصلی اضافه میشن، یک حرف مصوت (صدادار) بین ریشه جزء بعدی اضافه میشه، که بشه تلفظش کرد! لال نشیم وسط کلمه! مصوت اتصال (combining vowel) معمولاً یک «o» هست مثل مثالی که داشتیم (*gastroduodenostomy*) ولی بعضا میتونه «i, e, a» هم باشه.

بنابراین وقتی پسوند *-logy* به معنای «مطالعه‌ی یا study of» رو به ریشه *neur* به

معنای «عصب یا دستگاه عصبی» وصل می‌کنیم، یه مصوت اتصال اضافه میشه: *neurology = neur + o + logy* (مطالعه دستگاه عصبی).



ریشه‌هایی رو که با مصوت اتصال نشون میدن رو فرم‌های ترکیبی می‌نامیم.

در طول کتاب فرم‌های ترکیبی ریشه‌ها رو با مصوت‌های رایجشون رو بعد از یک اسلش (/) نوشتیم مثلا اینجوری *neur/o* اما برای سادگی کار قرار بذاریم همون «ریشه» صداشون کنیم! حواست فقط باشه هـ از مصوت اتصال زمانی که جزء آخر کلمه با یه مصوت شروع بشه استفاده نمیکنیم. بدیهیه این کاملاً! وقتی میتونی تلفظش کنی مگه مشکل داری مزاحم یه مصوت اتصال بشی! مثلا همون ریشه *neur* رو وقتی با پسوند *-itis* (به معنای التهاب) رو ترکیب کنیم میشه: *neur + it is = neuritis* (التهاب یک عصب). دیدی که مصوت اضافه نشد! البته این قانون تو تلفظ یه استثنایه هم داره که حالا تو درس‌ها بیشتر آشنا میشی.

### ◆ کلمات منتهی به x (Words Ending in x)

وقتی یه پسوند رو به کلمه منتهی به x اضافه می‌کنی، اون x تبدیل به g یا c میشه. اگر قبل از x یه حرف صامت بود مثلا *yx* یا *dx* اون x تبدیل به g میشه. به عنوان مثال *pharynx* (حلق) میشه *pharyngeal* (مربوط به حلق) که اینجوری تلفظ میکنی «فارینجیال»! یا مثلا *coccyx* (استخوان ستون فقرات) میشه *coccygeal* (مربوط به کوکسیکس) که اینجوری تلفظ میکنیم «کوکیسیجیال»! اگر قبل از x یه حرف مصوت اومده بود مثلا *ax* یا *ix* اون x رو تبدیل به c میکنی. بنابراین *thorax* (قفسه سینه) میشه *thoracic* (مربوط به توراکس) که تلفظش میشه «تورسیک» یا مثلا *cervix* (گردن) میشه *cervical* (مربوط به گردن) با تلفظ «سروییکال»!

### ◆ پسوندهایی با شروع rh (Suffixes beginning with rh)

زمانی که پسوندی که با rh شروع می‌شود را به ریشه اضافه می‌کنین اون r تکثیر پیدا میکنه!!! یعنی دوبرابر میشه! مثال‌های زیر رو نگاه کن:

hem/o (خون) + -rhage (بیرون ریختن) = hemorrhage (خونریزی)

men/o (قاعدگی) + -rhea (تخلیه، جریان) = menorrhea (جریان خون قاعدگی)



خیلی خب چهار تا دونه تست برو ببینم این مباحث رو کامل یاد گرفتی یا نه!

1. Epi- in the term epigastric is a \_\_\_\_

- A. word root
- B. prefix
- C. suffix
- D. combining form

2. The combining form for thorax (chest) is \_\_\_\_

- A. thorax/o
- B. thor/o
- C. thorac/o
- D. thori/o

3. The term musculoskeletal is a(n) \_\_\_\_

- A. abbreviation
- B. word root
- C. combining form
- D. compound word

4. The adjective for larynx is \_\_\_\_

- A. larynxic
- B. laryngeal
- C. larynal
- D. largeal

Answer: 1. B / 2. C / 3. D / 4. B

### پسوندها (Suffixes)

در این مرحله به سری پسوندهای مهم و پایه‌ای رو براتون میارم.

الف) پسوندهایی که معنی «وضعیت» می‌دهند. یعنی همون condition of ye chizi معنی میدن.

Suffix	Example	Definition of Example
-ia	dementia (دیمنشیا)	فقدان (de-) عملکرد ذهنی
-ism	racism (ریسیزم)	تبعیض براساس نژاد
-sis	thrombosis (ترومبوزیس)	وجود یک لخته خون در رگ
-y	atony (ای‌تونی)	فقدان (a-) تون عضلانی

ب) پسوندهای مربوط به تخصص‌های پزشکی.

Suffix	Meaning	Example	Definition of Example
-ian	متخصص در یک زمینه	physician (فیزیشن)	پزشک
-iatrics	تخصص پزشکی	pediatrics (پدیاتریکس)	مراقبت و درمان از کودکان (ped/o)
-iatry	تخصص پزشکی	psychiatry (ساکیاتری)	مطالعه و درمان اختلالات روانی
-ics	تخصص پزشکی	orthopedics (اورتوپدیکس)	مطالعه و درمان مفاصل و استخوان



Suffix	Meaning	Example	Definition of Example
-ist	متخصص در یک زمینه	podiatrist (پودیاتریست)	کسی که پا را مطالعه و درمان می کند
-logy	مطالعه	physiology (فیزیالوژی)	مطالعه عملکرد موجود زنده (physic/o = طبیعت)

ج) پسوندهای صفت ساز به معنی «مربوط به»، «شبيه».

Suffix	Example	Definition of Example
-ac	cardiac (کاردیک)	مربوط به قلب
-al	vocal (وکال)	مربوط به صوت
-ar	nuclear (نوکلئار)	مربوط به هسته
-ary	salivary (سالیوری)	مربوط به بزاق
-form	muciform (موسیفرم)	شبيه به موکوس
-ic	anatomic (اناتومیک)	مربوط به آناتومی
-ical (ic + al)	electrical (الکتریکال)	مربوط به الکتریسیته
-ile	virile (ورایل)	مربوط به مرد، عضله (مردانه)
-oid	lymphoid (لیمفوئید)	مربوط به دستگاه لنفاوی
-ory	circulatory (سرکیولیتوری)	مربوط به گردش خون
-ous	cutaneous (کیوتینس)	مربوط به پوست (cutis = پوست)

د) پسوندهای جمع ساز که کلمات مفرد (singular) رو جمع می بندن (plural).

Word Ending (انتهای مفرد کلمه)	Plural Ending (انتهای جمع کلمه)	Singular Example (مثال مفرد کلمه)	Plural Example (مثال جمع کلمه)
a	ae	vertebra (معنی: مهره ستون فقرات) (تلفظ: ورتبرا)	vertebrae (ورتبری)



Word Ending (انتهای مفرد کلمه)	Plural Ending (انتهای جمع کلمه)	Singular Example (مثال مفرد کلمه)	Plural Example (مثال جمع کلمه)
en	ina	lumen (معنی: سوراخ مرکزی) (تلفظ: لومن)	lumina (لومینا)
ex, ix, yx	ices	matrix (معنی: ماده زمینه) (تلفظ: متریکس)	matrices (متریسز)
is	es	diagnosis (معنی: تشخیص) (تلفظ: دایاگنوزیس)	diagnoses (دایاگنوزس)
ma	mata	stigma (معنی: برچسب، علامت) (تلفظ: استیگما)	stigmata (استیگماتا)
(nx (anx, inx, ynx	nges	phalanx (معنی: استخوان انگشت) (تلفظ: فلنکس)	phalanges (فلنجیز)
on	a	ganglion (معنی: توده‌ی بافت عصبی) (تلفظ: گنگلیون)	ganglia (گانگلیا)
um	a	serum (معنی: مایع رقیق) (تلفظ: سیروم)	sera (سیرا)
us	i	thrombus (معنی: لخته خون) (تلفظ: ترومبس)	thrombi (ترومبای)

پیشوندها (Prefixes)

در این مرحله به سری پیشوندهای مهم و پایه‌ای رو براتون میارم.  
الف) پیشوندهای مربوط به عدد

Prefix	Meaning	Example	Definition of Example
prim/i-	اول	Primary (پرایمری)	اول
mon/o-	یک	monocular (موناکولار)	دارای یک قطعه چشمی یا درگیر یک چشم
uni-	یک	unite (یونایت)	متحد شدن



Prefix	Meaning	Example	Definition of Example
hemi-	نصف، یک طرف	hemisphere (همیسفر)	نصف یک کره (نیم کره)
semi-	نصف، نسبی	semipermeable (سمی پرمیابل)	نیمه تراوا
bi-	دو، دوبار	binary (بایناری)	متشکل از دو بخش
di-	دو، دوبار	diatomic (دیاتومیک)	دارای دو اتم
diplo/o-	دوبرابر	diplococci (دیبلوکوکسی)	باکتری گرد که در گروه های دوتایی تکثیر میابد
tri-	سه	tricuspid (تری کاسپید)	دارای سه نوک یا سه لت
quadr/i-	چهار	quadruplet (کوادرپلت)	یکی از چهارقلوها
tetra-	چهار	tetralogy (تترالوژی)	گروهی از چهار جزء
multi-	بسیار	multicellular (مولتی سلولار)	متشکل از سلول های بسیار
poly-	بسیار	polymorphous (پلی مورفس)	دارای شکل های بسیار

(ب) پیشوندهای مربوط به رنگ

Prefix	Meaning	Example	Definition of Example
cyan/o-	آبی	cyanosis (سایانوزیس)	تغییر رنگ پوست به آبی ناشی از کمبود اکسیژن
erythr/o-	قرمز	erythrocyte (اریتروسایت)	گلبول قرمز
leuk/o-	سفید، بی رنگ	leukemia (لوکمیا)	سرطان گلوبول های سفید
melan/o-	سیاه، تاریک	melanin (ملانین)	رنگدانه سیاه که پوست و مو را رنگ می کند
xanth/o-	زرد	xanthoma (زانثوما)	رشد (-oma) زرد رنگ روی پوست



ج) پیشوندهای مربوط به زمان و یا موقعیت

Prefix	Meaning	Example	Definition of Example
ante-	قبل	antenatal (آنته‌نی‌تال)	قبل از تولد
pre-	قبل، جلو	premature (پری‌مچر)	وقوع قبل از زمان صحیح
pro-	قبل، جلو	prodrome (پرودروم)	علائم قبل از بیماری
post-	بعد، پشت	postnasal (پست‌نیزال)	پشت بینی

د) پیشوندهای منفی‌کننده

Prefix	Meaning	Example	Definition of Example
a-, an-	بدون، فاقد، فقدان	anhydrous (آنهایدرس)	فاقد آب
anti-	مخالف	antiseptic (آنتی‌سپتیک)	داروی جلوگیری از عفونت
contra-	مخالف	contraindicated (کنترایندیکیتد)	برخلاف توصیه‌ها، منع مصرف
de-	پایین، بدون، حذف، فقدان	decalcify (دیکلسفای)	حذف کلسیم
dis-	فقدان، حذف، جدایی	dissect (دایسکت)	جدایی بافت‌ها برای مطالعه آناتومی
in-, im-	منفی	incontinent (اینکانتیننت)	عدم توانایی کنترل یا نگهداری تخلیه
non-	منفی	noncontributory (نان‌کانتری‌بیوتری)	غیرقابل توجه، چیزی که اطلاعاتی به تشخیص‌م‌ن اضافه نمیکند
un-	منفی	uncoordinated (آن‌کون‌وردینیتد)	عدم هماهنگی، عدم کار با یکدیگر

ه) پیشوندهای مربوط به جهت

Prefix	Meaning	Example	Definition of Example
ab-	دور از	abduct (ابداکت)	دور کردن از خط وسط
ad-	به سمت، نزدیک	adduct (ادداکت)	نزدیک کردن به خط وسط



Prefix	Meaning	Example	Definition of Example
dia-	از طریق	diarrhea (دایاریا)	تخلیه مکرر مدفوع مایع (اسهال)
per-	از طریق	percutaneous (پرکیوتینس)	از طریق پوست
trans-	از طریق	transected (ترنس سکتد)	بریدن به داخل

(و) پیشوندهای مربوط به درجه یا میزان

Prefix	Meaning	Example	Definition of Example
hyper-	روی، بیش از حد، افزایش	hyperthermia (هایپرترمیا)	دمای بالای بدن
hypo-	زیر، کاهش	hyposecretion (هایپوسکشن)	کاهش تولید یک ماده
olig/o-	کم (scanty)	oligospermia (اولیگواسپرمیا)	کاهش تعداد اسپرم در مایع منی
pan-	تمام، کل (entire)	pandemic (پاندمیک)	بیماری که تمام جمعیت را درگیر کرده
super-	بالا، بیش از حد	supernumerary (سوپرنومیری)	تعداد زیاد

(ز) پیشوندهای مربوط به سائز و اندازه

Prefix	Meaning	Example	Definition of Example
equi-	مساوی	equilibrium (اکوئیل ایبریوم)	تعادل
eu-	صحیح، خوب، ساده، طبیعی	euthanasia (یوتانازیا)	مرگ آسان و بدون درد
hetero-	دیگر، متفاوت، غیرمساوی	heterogenous (هتروجنس)	متشکل از مواد متفاوت
homo-homeo-	یکسان، بدون تغییر	homograft (هوموگرافت)	پیوند بافت بین دو نفر از یک گونه
iso-	مساوی، یکسان	isocellular (ایزوسلولار)	متشکل از سلول های مشابه
macro-	بزرگ	macroscopic (ماکروسکوپیک)	به اندازه کافی بزرگ جهت مشاهده بدون میکروسکوپ
mega-, megal/o-	بزرگ	megacolon (مگاکولون)	بزرگی کولون



Prefix	Meaning	Example	Definition of Example
micro-	کوچک	microcyte (میکروسایت)	سلول بسیار کوچک
neo-	جدید	neonate (نئونیت)	نوزاد
normo-	طبیعی	normovolemia (نورمووالمیا)	حجم طبیعی خون
ortho-	مستقیم، صحیح، ایستاده	orthodontics (اورتودونتیکس)	شاخه‌ای از دندان پزشکی
poikilo-	متغیر، غیرطبیعی	poikilothermic (پویکیلوترمیک)	دارای دمای متغیر بدن
pseudo-	کاذب	pseudoplegia (سودوپلژیا)	فلجی کاذب
re-	دوباره، پشت	reflux (ریفلاکس)	بازگشت، جریان برعکس

(ح) پیشوندهای مربوط به موقعیت

Prefix	Meaning	Example	Definition of Example
dextr/o-	راست	dextrogastria (دکستروگاستریا)	جابه جایی معده به راست
sinistro-	چپ، در طرف چپ	sinistromanual (سینیسترومنوال)	چپ دست
ec-, ecto-	بیرون	ectopic (اکتوپیک)	خارج از موقعیت طبیعی
ex/o-	دور، بیرون	excise (اکسایز)	برش
end/o-	درون	endoderm (اندودرم)	لایه درونی رویان در حال رشد
mes/o-	میان	mesencephalon (فرنسفالون)	بخش میانی مغز
syn-, sym-	با هم	synapse (سیناپس)	پیوستگاه بین دو سلول عصبی
tel/e-, tel/o-	انتها، دور، با فاصله	teletherapy (تله‌تراپی)	رادیوتراپی با فاصله از بدن

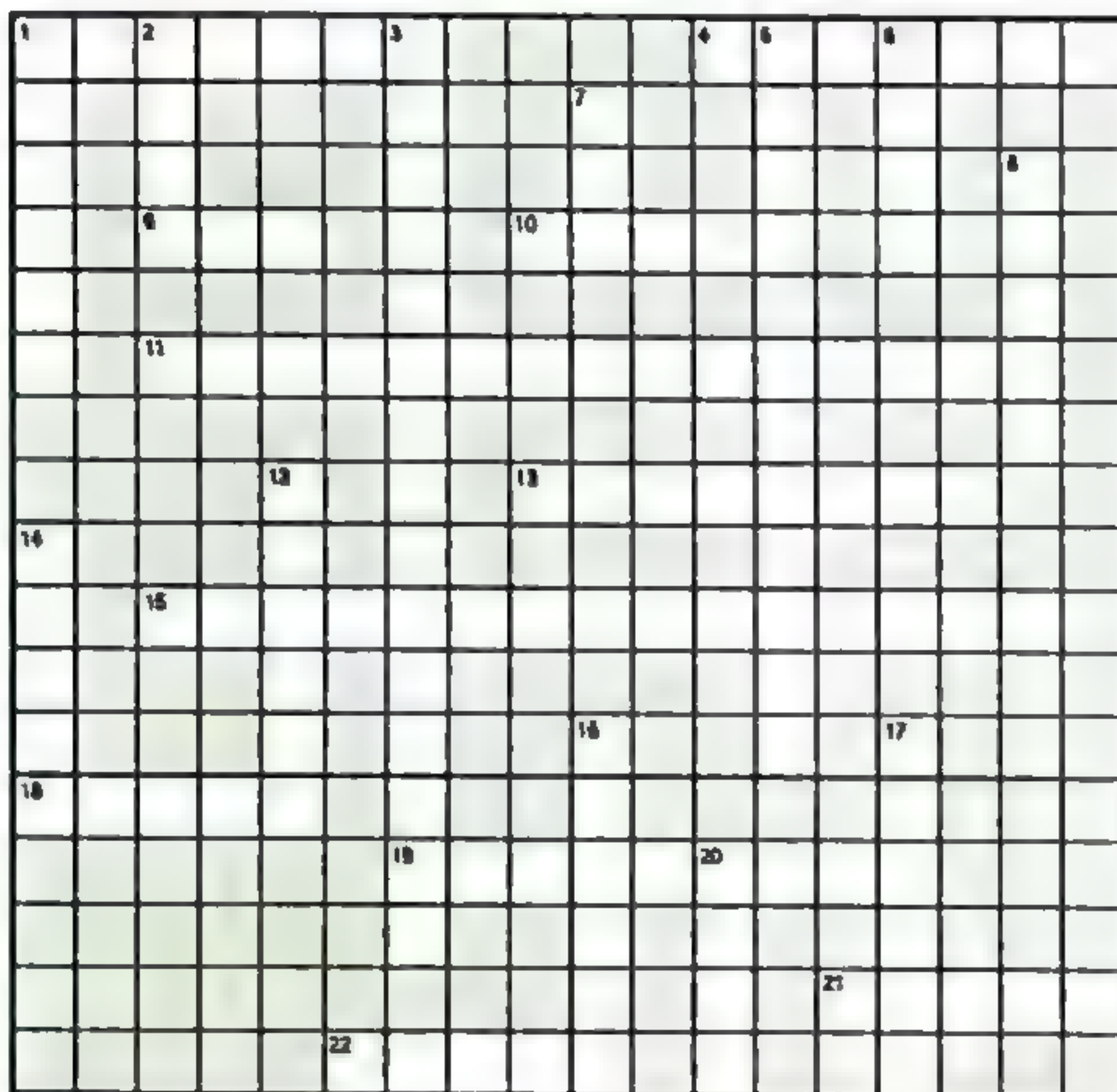


یه تمرین کوچیک هم حل کن:

- |                   |   |
|-------------------|---|
| 1. primitive      | a. one-half or one side of the chest                      |
| 2. biceps         | b. having two forms                                       |
| 3. unify          | c. combine into one part                                  |
| 4. dimorphous     | d. a muscle with two parts                                |
| 5. hemithorax     | e. excessive thirst                                       |
| 6. erythematous   | a. cell with yellow color                                 |
| 7. melanoma       | b. having a bluish discoloration                          |
| 8. xanthocyte     | c. darkly pigmented tumor                                 |
| 9. cyanotic       | d. red in color   |
| 10. polydipsia    | e. white blood cell                                       |
| 11. telencephalon | a. total paralysis  |
| 12. hypovolemia   | b. first stage of cell division                           |
| 13. panplegia     | c. double vision  |
| 14. prophase      | d. abnormally decreased amount of circulating in the body |
| 15. diplopia      | e. endbrain   |

Answer: 1.E / 2.D / 3.C / 4.B / 5.A / 6.D / 7.C / 8.A / 9.B / 10.E / 11.E / 12.D / 13.A / 14.B / 15.C

یه جدول هم حل کن از همین چیزا که یاد گرفتی!! شاید یه سری کلماتش رو بلد نباشی ولی همین باعث میشه یاد بگیری



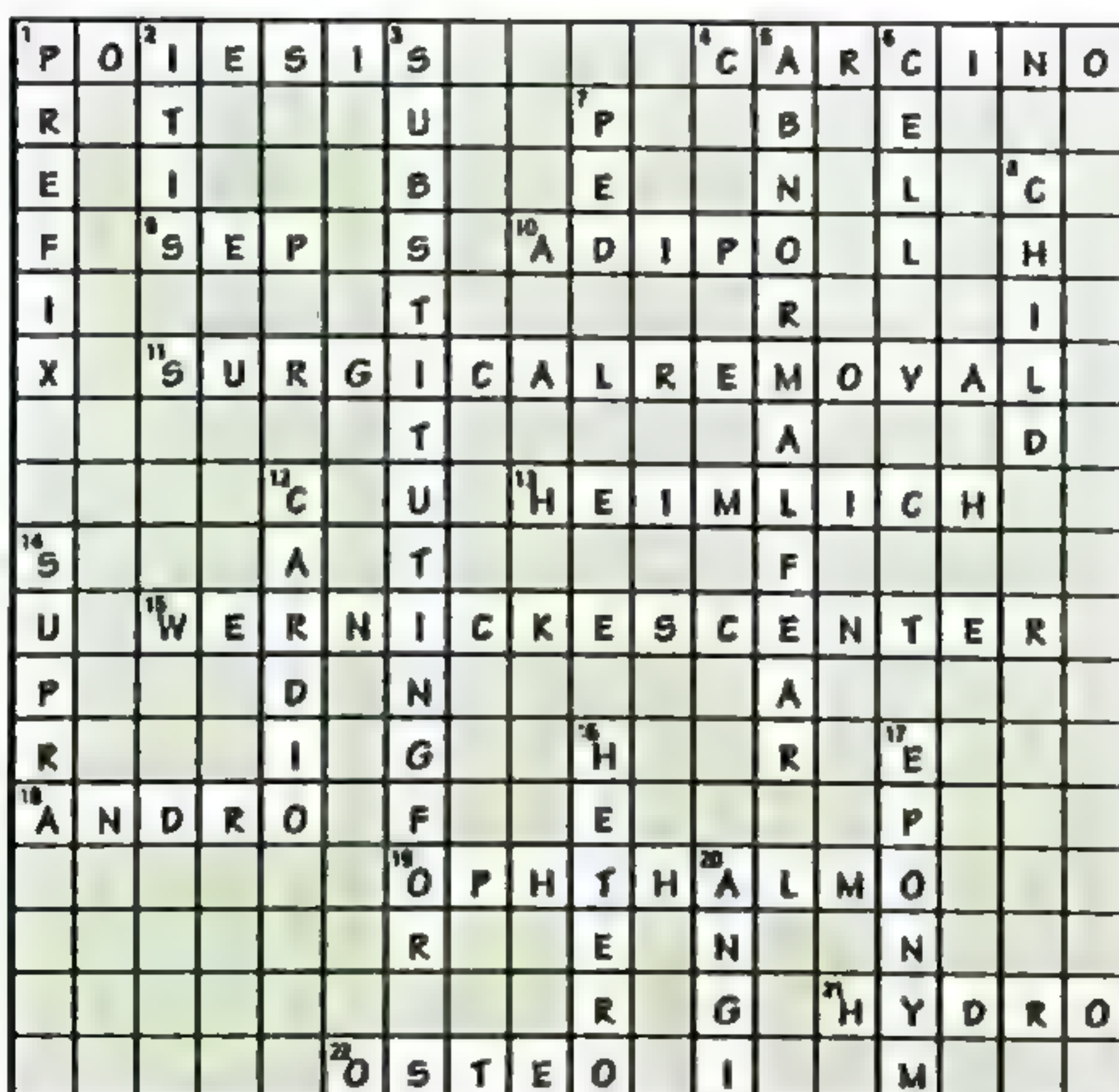
### Across

1. Suffix meaning *production*
4. Root for *cancer*
9. Root for *decay*
19. Root for *fat*
11. Suffix in *splenectomy* means this (two words)
13. An eponymic maneuver
15. An eponymic speech center in the brain (two words)
17. Root for *male*
19. Root for *eye*
21. Root for *water*
23. Root for *bone*

اینم پاسخش:

### Down

1. Syllable attached to the beginning of a word
3. Suffix for *inflammation*
5. *Pro-* means this (two words)
6. *Phobia* is a root meaning this (two words)
8. Second root in *erythrocyte* means this
10. Root of *pediatric*
12. Meaning of root in 7 down
14. Root for *heart*
16. Prefix meaning *upon*
18. Prefix meaning *different*
20. Term for a word derived from a person's name
22. Root for *vessel*





## سلول، بافت و دستگاه‌های بدن Cells, Tissues and Organ Systems

## فصل ۲ Unit 2

از یه درس ساده و بیسیک و ابتدایی شروع میکنیم. تو این درس کمی راجع به سلول و اندام‌ها و ریشه‌ها و پیشوند و پسوندهای مربوطه یاد میگیریم. متن زیر رو بخون و اگر کلمه ای رو نمیدونستی معنیش چی میشه از ستون سمت راست استفاده کن. یه نکته اینجا بگم که قرار نیست خط به خط ترجمه کنی!!!! باید فقط متن و لغات و معنی‌شون رو بفهمی و باهاشون آشنا بشی. مخصوصا اصطلاحات بولد و پررنگ شده رو خوب بخون. طراح‌ها بخوان سوال زبان اختصاصی وازگان طرح کنن از همین مباحث سوال طرح میکنن.

### ■ ORGANIZATION

All organisms are built<sup>1</sup> from simple to more complex<sup>2</sup> levels. Chemicals form the materials that make up<sup>3</sup> cells, which are the body's structural and functional units. Groups of cells working together make up tissues, which in turn<sup>4</sup> make up the organs, which have specialized functions. Organs become components of the various systems, which together comprise<sup>5</sup> the whole organism.

### ■ THE CELL

The cell is the basic unit of living organisms. Cells accomplish<sup>1</sup> all the activities and produce all the components<sup>2</sup> of the body. They carry out<sup>3</sup> **metabolism**, the sum<sup>4</sup> of all the body's physical and chemical activities. They provide<sup>5</sup> the energy for metabolic reactions in the form of the chemical **adenosine triphosphate (ATP)**, commonly described as the energy compound of the cell. The main categories of organic compounds contained<sup>6</sup> in cells are:

- **Proteins**, which include the **enzymes**, some hormones, and structural<sup>7</sup> materials.
- **Carbohydrates**, which include sugars and starches<sup>8</sup>. The main carbohydrate is the sugar **glucose**, which circulates<sup>9</sup> in the blood to provide energy for the cells.
- **Lipids**, which include fats. Some hormones are derived<sup>10</sup> from lipids, and adipose (fat) tissue is designed<sup>11</sup> to store<sup>12</sup> lipids.

Within<sup>1</sup> the **cytoplasm** that fills<sup>2</sup> the cell are subunits called **organelles**<sup>3</sup>, each with a specific function. Diseases may affect<sup>4</sup> specific parts of cells. Cystic fibrosis and diabetes, for example, involve the plasma membrane. Other disorders originate<sup>5</sup> with mitochondria, the endoplasmic reticulum (ER), lysosomes, or peroxisomes.

The **nucleus**<sup>6</sup> is the control region of the cell. It contains the **chromosomes**, which carry genetic information. Each human cell, aside from<sup>7</sup> the reproductive (sex) cells, contains 46 chromosomes. These thread-like<sup>8</sup> structures are composed<sup>9</sup> of a complex organic substance, **deoxyribonucleic acid (DNA)**, which is organized into separate<sup>10</sup> units called **genes**. Genes control the formation of proteins, most particularly<sup>11</sup> enzymes, the catalysts<sup>12</sup> needed to speed the rate of metabolic reactions. To help manufacture<sup>13</sup> proteins, the cells use a compound called **ribonucleic acid (RNA)**, which is chemically related to DNA. Changes (mutations<sup>14</sup>) in the genes or chromosomes are the source of hereditary<sup>15</sup> diseases.

۱- ساخته شدن / ۲- پیچیده

۳- ایجاد کردن

۴- به نوبه خود

۵- تشکیل دادن

۱- انجام دادن

۲- اجزا

۳- انجام دادن

۴- جمع

۵- فراهم کردن

۶- شامل شدن

۷- ساختاری

۸- نشاسته

۹- در گردش بودن

۱۰- مشتق شدن از

۱۱- طراحی شدن

۱۲- ذخیره کردن

۱- درون / ۲- پر کردن

۳- اندام‌ها

۴- اثر گذاشتن

۵- منشاء گرفتن

۶- هسته / ۷- به جز

۸- شبیه رشته

۹- تشکیل شدن

۱۰- جداگانه

۱۱- مخصوصا / ۱۲- کاتالیزورها

۱۳- تولید

۱۴- جهش‌ها

۱۵- ارثی



When a body cell divides<sup>1</sup> by the process of mitosis, the chromosomes are doubled<sup>2</sup> and then equally<sup>3</sup> distributed<sup>4</sup> to the two daughter cells. When a cell is not dividing, it remains in a stage called *interphase*. In cancer, cells multiply<sup>5</sup> without control causing cellular overgrowth<sup>6</sup> and tumors. Reproductive cells (eggs and sperm) divide by a related process, meiosis, that halves<sup>7</sup> the chromosomes in preparation<sup>8</sup> for fertilization<sup>9</sup>. The study<sup>10</sup> of cells is **cytology** (سیتولوژی), based on the root *cyt/o*, meaning "cell."

## ■ TISSUES

Cells are organized into four basic types of tissues that perform<sup>1</sup> specific functions:

1- Epithelial (اپیتلیال) tissue covers<sup>2</sup> and protects<sup>3</sup> body structures and lines organs, vessels, and cavities<sup>4</sup>.

- Simple epithelium, composed of cells in a single layer, functions to absorb substances from one system to another, as in the respiratory and digestive tracts.
- Stratified epithelium, with cells in multiple layers, protects deeper tissues, as in the mouth and vagina. Most of the active cells in glands are epithelial cells.

2- Connective tissue supports and binds<sup>5</sup> body structures. It contains fibers and other nonliving material between the cells. Included in this category are blood, adipose (fat) tissue, cartilage, and bone.

3- Muscle tissue (root: my/o) contracts<sup>6</sup> to produce movement. There are three types of muscle tissue:

- Skeletal muscle moves the skeleton. It has visible<sup>7</sup> cross-bands, or striations<sup>8</sup>, that are involved in contraction. Because it is under conscious<sup>9</sup> control, it is also called voluntary<sup>10</sup> muscle.
- Cardiac muscle forms the heart. It functions without conscious control and is described as involuntary.
- Smooth or visceral<sup>11</sup> muscle forms the walls of the abdominal organs; it is also involuntary.

Many organs described in later chapters on the systems have walls made of smooth muscle. The walls of ducts<sup>12</sup> and blood vessels also are composed mainly of smooth muscle.

4- Nervous tissue (root: neur/o) makes up the brain, spinal cord, and nerves. It coordinates<sup>13</sup> and controls body responses by the transmission<sup>14</sup> of electrical impulses<sup>15</sup>. The basic cell in nervous tissue is the neuron, or nerve cell.

## • Membranes

A **membrane** (ممبرین) is a simple, very thin, and pliable<sup>1</sup> sheet of tissue. Membranes may cover an organ, line a cavity, or separate one structure from another. Some secrete<sup>2</sup> special substances. Mucous membranes secrete **mucus**, a thick<sup>3</sup> fluid that lubricates<sup>4</sup> surfaces and protects underlying tissue, as in the lining of the digestive tract and respiratory passages. Serous membranes, which secrete a thin<sup>5</sup>, watery fluid, line body cavities and cover organs. These include the membranes around the heart and lungs. Fibrous membranes cover and support organs, as found around the bones, brain, and spinal cord.

The study of tissues is **histology** (هیستولوژی), based on the root *hist/o*, meaning "tissue."

۱- تقسیم شدن / ۲- دوبرابر شدن

۳- مساوی / ۴- توزیع شدن

۵- تکثیر شدن / ۶- رشد بیش از حد

۷- نصف شدن / ۸- آماده سازی

۹- لقاح / ۱۰- مطالعه

۱- انجام دادن

۲- پوشش دادن

۳- محافظت کردن

۴- حفرات

۵- متصل کردن

۶- منقبض شدن

۷- قابل مشاهده

۸- خط، نوار

۹- آگاهانه

۱۰- ارادی

۱۱- احشایی

۱۲- مجاری

۱۳- هماهنگ کردن

۱۴- انتقال

۱۵- تکانه‌های الکتریکی

۱- انعطاف پذیر

۲- ترشح کردن

۳- غلیظ

۴- لیز کردن، چرب کردن

۵- رقیق



## ORAGANS AND ORGAN SYSTEMS

Tissues are arranged into organs, which serve specific functions, and organs, in turn, are grouped<sup>1</sup> into systems. Grouped according to functions, the body systems are:

### 1- Circulation<sup>2</sup>:

- Cardiovascular system, consisting of the heart and blood vessels.
- Lymphatic system, organs, and vessels that aid circulation and help protect the body from foreign materials.

### 2- Nutrition and fluid balance:

- Respiratory system, which obtains<sup>3</sup> the oxygen needed for metabolism and eliminates<sup>4</sup> carbon dioxide, a byproduct of metabolism.
- Digestive system, which takes in, breaks down<sup>5</sup>, and absorbs<sup>6</sup> nutrients and eliminates undigested waste.
- Urinary system, which eliminates soluble<sup>7</sup> waste and balances the volume and composition<sup>8</sup> of body fluids.

### 3- Production of offspring<sup>9</sup>: The male and female reproductive systems.

### 4-Coordination and control:

- Nervous system, consisting of the brain, spinal cord, and nerves, and including the sensory system. This system receives and processes stimuli<sup>10</sup> and directs responses.
- Endocrine system, consisting of individual glands that produce hormones.

### 5- Body structure and movement:

- Skeletal system, the bones and joints.
- Muscular system, which moves the skeleton and makes up organs. The muscular system and skeleton protect vital organs.

### 6- Body covering: The integumentary<sup>11</sup> system, which includes the skin and its associated structures, such as hair, sweat glands, and oil glands. This system functions in protection and also helps to regulate body temperature.

Bear in mind that the body functions as a whole; no system is independent of the others. They work together to maintain<sup>12</sup> the body's state of internal stability, termed **homeostasis** (هومئوستازیس).

۱- گروه بندی کردن

۲- گردش مواد

۳- گرفتن

۴- حذف کردن

۵- تجزیه کردن

۶- جذب کردن

۷- محلول در آب

۸- ترکیب

۹- نوزاد

۱۰- محرک‌ها

۱۱- پوششی

۱۲- حفظ کردن

خب حالا که متن درس رو خوندی، چند تا ریشه و پسوند مرتبط با همین درس یاد بگیریم. برات معنی هر بخش رو نوشتم و یه مثال با معنیش رو هم نوشتم. حتی نحوه خوندنشون رو هم واست نوشتم که دیگه حتی تلفظشون رو هم خوب یاد بگیری. اینا یه سری ریشه یا پسوند مربوط به سلول‌ها و بافت‌ها هستن:

Root or Suffix	Meaning	Example	Definition of Example
morph/o	شکل	polymorphous (پلی‌مورفس)	دارای چندین شکل
cyt/o cyte-	سلول	cytologist (سایتولوژیست)	کسی که روی سلول‌ها مطالعه میکند (سلول شناس)



Root or Suffix	Meaning	Example	Definition of Example
nucle/o	هسته	nuclear (نوکلنار)	مربوط به هسته
kary/o	هسته	karyotype (کاریوتایپ)	تصویر کروموزوم‌های سلول که بر اساس اندازه مرتب شده‌اند
hist/o histi/o	بافت	histocompatibility (هیستوکامپتیبیلیتی)	همخوانی بافت که اجازه پیوند می‌دهد
fibr/o	فیبر، رشته	fibrous (فیبروس)	تشکیل غیرطبیعی بافت فیبری
reticul/o	شبهه	reticulum (رتیکولوم)	یک شبکه
aden/o	غده	adenoma (آدنوما)	تومور (-oma) یک غده
papill/o	نوک پستان (نیپل)	papilla (پاپیلا)	برآمدگی که شبیه به نوک پستان است
myx/o	موکوس	myxadenitis (میکسادنایتیس)	التهاب (-itis) غده ترشح کننده موکوس
muc/o	موکوس، غشای مخاطی	mucorrhea (موکوره‌آ)	افزایش جریان (-rhea) موکوس
somat/o some-	جسم، جسم کوچک	chromosome (کروموزوم)	جسم کوچکی که رنگ می‌گیرد (chrom/o = رنگ)

اینها هم ریشه‌های مربوط به فعالیت سلول‌ها هستند:

Root	Meaning	Example	Definition of Example
blast/o blast-	سلول نابالغ، سلول تولید کننده، سلول رویانی	histioblast (هیستیوبلاست)	یک سلول تشکیل دهنده بافت
gen	منشاء، تشکیل	karyogenesis (کاریوژنسیس)	تشکیل یک هسته
phag/o	خوردن، بلعیدن	autophagy (اتوفازی)	خود تخریبی یک اندامک سلول
phil	جذب کردن (attract, absorb)	basophilic (بیزوفیلیک)	جذب کردن رنگ قلیایی
plas	تشکیل، شکل گیری، تکوین	hyperplasia (هایپرپلیازیا)	رشد بیش از حد یک اندام یا بافت



Root	Meaning	Example	Definition or Sample
trop/o	اثر گذار روی	chronotropic (کرونوتروپیک)	اثر گذار روی زمان یا سرعت (chron/o = زمان)
troph/o	تغذیه، رشد، غذا دادن	atrophy (آتروفی)	زوال بافت، از بین رفتن بافت

ریشه‌هایی که تو این جدول بالاییه گفته شد معمولا با پسوندهای اسم ساز (-in ، -y ، -ia-) یا پسوندهای صفت ساز (-ic) ترکیب میشن و ترکیب حاصل به عنوان انتهای یک کلمه به حساب میاد؛ یعنی وقتی مثلا -trophy اینو به چیز دیگه وصل میکنیم و حتما انتهای کلمه رو تشکیل میده. چند مثال بزیم با همین کلمات: -trophy، -plasia، -tropin، -philic، -genic. به سری ریشه‌های راجع به بیوشیمی یاد بگیر:

Root	Meaning	Example	Definition or Sample
-ase	آنزیم	lipase (لیپیز)	آنزیم تجزیه کننده‌ی چربی (لیپید)
-ose	قند	lactose (لاکتوز)	قند شیر
hydr/o	آب، مایع	hydration (هیدراسیون)	افزودن آب، وجود مقدار نسبی آب
gluc/o	گلوکز	glucogenesis (گلوکوژنیزس)	تولید قند
glyc/o	قند، گلوکز	normoglycemia (نورموگلاسمیا)	سطح نرمال قند خون
sacchar/o	قند	polysaccharide (پلی ساکارید)	ترکیبی شامل چندین قند ساده
amyl/o	نشاسته	amyloid (آمیلوئید)	شبیه به نشاسته
lip/o	لیپید، چربی	lipophilic (لیپوفیلیک)	جذب کردن لیپید
adip/o	چربی	adiposuria (آدیپوزوریا)	حضور چربی در ادرار (ur/o)
steat/o	چرب	steatorrhea (استئاتوریا)	ترشح و تخلیه (-rhea) مدفوع چرب
prote/o	پروتئین	protease (پروتئیز)	آنزیم تجزیه کننده‌ی پروتئین



یه تمرین زیبا...

۱. A dimorphic organ has two \_\_\_\_  
 ۲. Karyomegaly is enlargement (-megaly) of the \_\_\_\_  
 ۳. Adenitis is Inflammation (-itis) of a \_\_\_\_  
 ۴. Myxoma is a tumor of tissue that secretes \_\_\_\_  
 ۵. the study (-logy) of morf

۱. Hydrophobia is an aversion (-phobia) to \_\_\_\_ (aversion = ایزاری)  
 ۲. presence of glucose in the urine  
 ۳. treatment using water  
 ۴. fibrous tumor  
 ۵. cell with a very large nucleus  
 ۶. large body

Answer: ۱. Shapes / ۲. Nucleus / ۳. Gland / ۴. Mucus / ۵. Morphology

۶. Water / ۷. Glucosuria / ۸. Hydrotherapy / ۹. Fibroma / ۱۰. Megakaryocyte / ۱۱. macrosomia

از این به هم وصل کنید تا هم حل کن بینم!

- \_\_\_ ۱. papilliform  
 \_\_\_ ۲. amorphous  
 \_\_\_ ۳. atrophy  
 \_\_\_ ۴. autotroph

۱. resembling a nipple  
 ۲. wasting of tissue  
 ۳. organism that can manufacture its own food  
 ۴. having no specific form

Answer: ۱. A / ۲. D / ۳. B / ۴. C

حالا هم یه سری تست از این مبحث که تو علوم پایه‌های اخیر اومده بزنیم:

۱. The fragmentation of chromatin and distribution of it throughout the cytoplasm as a result of nuclear disintegration is called .....

- ۱) karyolysis  
 ۲) nucleoplasm  
 ۳) karyorrhexis  
 ۴) cytokinesis

پزشکی قلمی

۲. Which of the following terms means "a decrease in all cells of the blood"?

- ۱) Leukopenia  
 ۲) Polycythemia  
 ۳) Polycytopenia  
 ۴) Thrombocytopenia

پزشکی قلمی

۳. Which of the following is the definition for aphagia?

- ۱) Extreme thirst  
 ۲) Difficulty hearing  
 ۳) Inability to swallow  
 ۴) Loss of hair

پزشکی قلمی

۴. A chronotropic agent refers to:

- ۱) variations of color  
 ۲) variations of time  
 ۳) impacts due color  
 ۴) impacts due time

پزشکی قلمی

۵. The following question be matched with only one of the symptoms: Do you have any trouble swallowing?

- ۱) dysphasia  
 ۲) dysphagia  
 ۳) dysuria  
 ۴) dyspnea

پزشکی قلمی

۶. Excessive amount of fat discharge in fecal matter made him bedridden with the diagnosis of .....

- ۱) pyorrhea  
 ۲) steatorrhea  
 ۳) hematuria  
 ۴) hemorrhagia

پزشکی قلمی



۱. Myxoma refers to a tumor that produce.....

- ۱) marrow
- ۲) myelin
- ۳) mucus
- ۴) muscle

پزشکی

۲. In polychromasia, the.....of erythrocytes is excessively varied due to variation in the hemoglobin content.

- ۱) Size
- ۲) Number
- ۳) Color
- ۴) Shape

پزشکی

۳. The category of organic compounds that includes sugars and starches is the definition of .....

- ۱) Mitochondria
- ۲) Cytoplasm
- ۳) Carbohydrate
- ۴) Chromosome

پزشکی

۴. The obstetrician diagnosed the neonate's weird appearance as ....., a congenital absence of pigment in the skin, hair and the eyes.

- ۱) Albinoidism
- ۲) Albinism
- ۳) melasma
- ۴) melanoma

پزشکی

۵. Before you decide to donate one of your kidneys to a beloved one, you should perform a .....

- ۱) Histocompatibility
- ۲) Karyotype
- ۳) Histopathology
- ۴) hepatic function

پزشکی

۶. A phagocytoblast is.....

- ۱) A phagocyte unable to perform phagocytosis.
- ۲) A cell which acts like a mature phagocyte.
- ۳) An abnormal phagocyte.
- ۴) A primitive cell developing into phagocyte.

پزشکی

۷. Reduced secretion of fatty material by the skin's sebaceous glands is referred to as .....

- ۱) Adipocyte
- ۲) Stearorrhea
- ۳) Asteatosis
- ۴) Lipophilic

پزشکی

Answers: ۱. C / ۲. C / ۳. C / ۴. D / ۵. B / ۶. B / ۷. C / ۸. A / ۹. C / ۱۰. D / ۱۱. C / ۱۲. C / ۱۳. B

### Reading Comprehension: (پزشکی همداد ۱۳۰۰)

A global survey on implementation of national infection prevention and control programs by the World Health Organization highlights the urgent need to reduce inequalities in the availability of good hand hygiene and other infection prevention and control measures between high and lower income countries. This is a serious challenge at any time, but COVID-19 has dramatically demonstrated just how important good hand hygiene practices are in reducing the risk of transmission, when used as part of a comprehensive package of preventative measures. Good hand hygiene is also vital in preventing any infections acquired in health care, the spread of antimicrobial resistance and other emerging health threats. Infection acquired during health care delivery is a major global health problem, but patients in low- and middle-income countries are twice as likely to experience this as patients in high-income countries; the risk in intensive care units, especially among newborns, is between 2 and 20 times higher. One reason for this is that in some low-income countries only 1 in 10 health workers practices proper hand hygiene while caring for patients at high risk of health care-associated infections in ICU - often because they simply do not have the facilities to do so. Lack of financial resources and crumbling infrastructures are key challenges. A 2020 WHO report reveals that globally, 1 in 4 health care facilities do not have basic water services and 1 in 3 lack hand hygiene supplies at the point of care.



۱. What does "This" in line 4 refer to?

- ۱) Hand hygiene practices
- ۲) COVID19
- ۳) Inequality
- ۴) World Health Organization

۲. The global survey by the WHO has shown that .....

- ۱) rich individuals follow good hand hygiene practices
- ۲) hand hygiene measures are the same in all countries
- ۳) low income families do not consider hand hygiene
- ۴) hand hygiene availability differ in various countries

۳. According to the passage, infection acquired during health care delivery .....

- ۱) causes antimicrobial resistance
- ۲) doubles in low- and middle-income countries
- ۳) is 20 times higher in intensive care units
- ۴) is high among newborns in high-income countries

۴. Which of the following is a reason for infections acquired during health care?

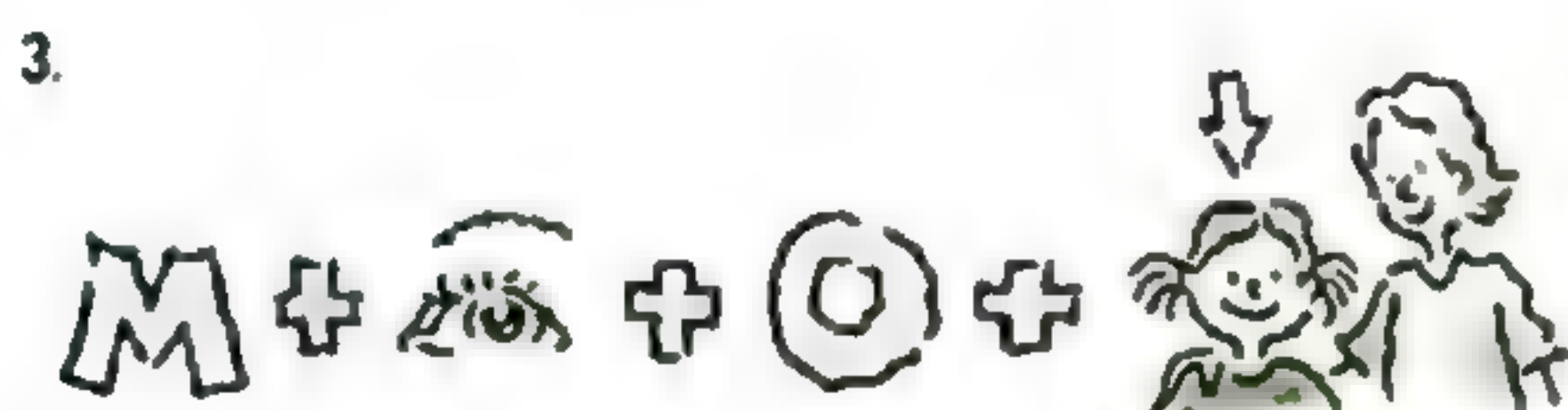
- ۱) Health workers unsuitable hand hygiene
- ۲) Lack of ICU facilities
- ۳) Low number of health workers
- ۴) Health workers' low income

۵. According to the passage, which of the following is true?

- ۱) Health care workers in low-income countries have hand hygiene facilities
- ۲) Health workers lack hand hygiene facilities in some low-income countries
- ۳) One fourth of low income countries lack hand hygiene supplies
- ۴) One third of world countries lack basic water services in 2021

Answers: ۱. C / ۲. D / ۳. B / ۴. A / ۵. B

اینم یه بازی کوچولو باحال!! ببین میتونی حدس بزنی که عکس داره چه کلمه‌ای رو می‌گه؟



Answer:

- ۱. Mitochondria
- ۲. Cytokinesis
- ۳. Meiosis



تو این درس میخوانیم یکم راجع به جهت‌ها و موقعیت ساختارهای بدن صحبت کنیم. این درس پسوندها و پیشوندهای مهمی داره که تا آخر باهاتمه!!

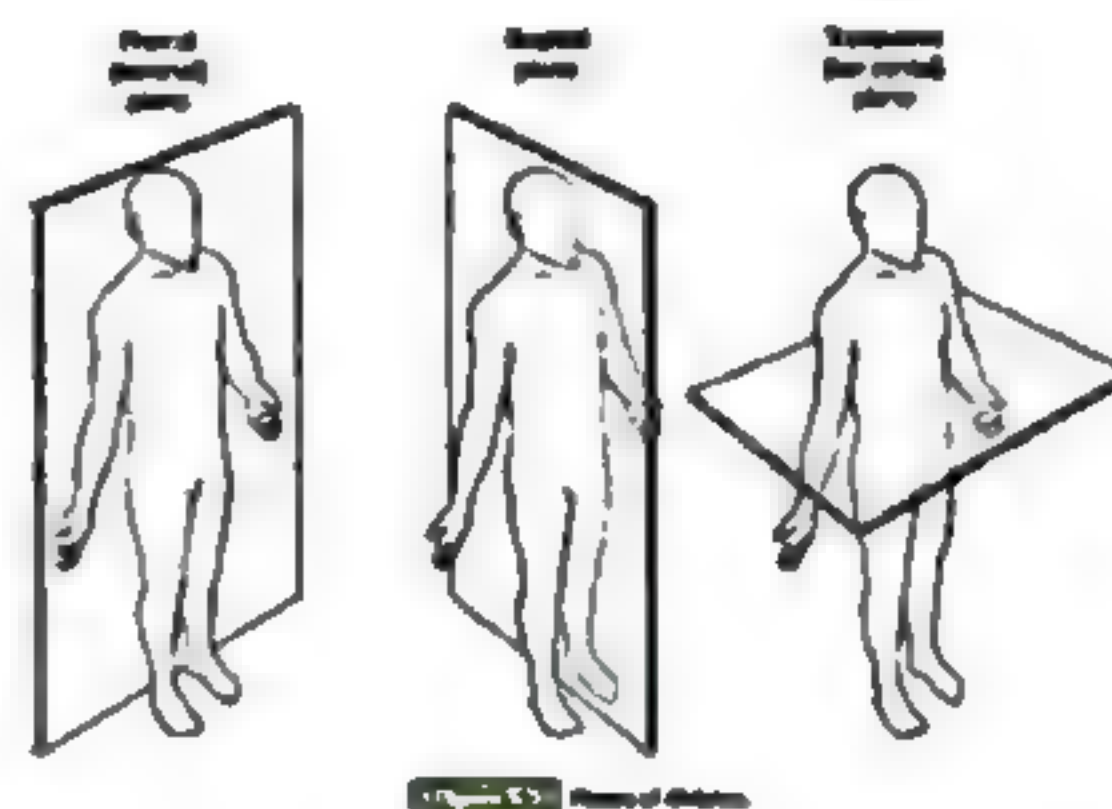
## ORGANIZATION

All healthcare fields<sup>1</sup> require<sup>2</sup> knowledge<sup>3</sup> of body directions and orientations. Physicians, surgeons, nurses, occupational therapists, and physical therapists, for example, must be thoroughly<sup>4</sup> familiar with the terms used to describe body locations and positions. Radiologic technologists must be able to position a person and direct x-rays to obtain suitable images for diagnosis.

- ۱- تخصص‌ها
- ۲- نیاز داشتن
- ۳- دانش
- ۴- کامل و دقیق

## DIRECTIONAL TERM

In describing the location or direction of a given point in the body, it is always assumed that the subject is in the **anatomic position**, that is, upright<sup>1</sup>, with face front<sup>2</sup>, arms at the sides<sup>3</sup> with palms<sup>4</sup> forward<sup>5</sup> and feet parallel<sup>6</sup>.



This figure on the right, illustrates<sup>7</sup> planes<sup>8</sup> of section<sup>9</sup>, that is, directions in which the body can be cut. A **frontal plane**, also called a coronal plane, is made at right angles to the midline and divides the body into anterior<sup>10</sup> and posterior<sup>11</sup> parts. A **sagittal plane** (ساجیتال) passes from front to back and divides the body into right and left portions. If the plane passes through the midline, it is a midsagittal or medial<sup>12</sup> plane. A **transverse**<sup>13</sup> (horizontal<sup>14</sup>) plane passes horizontally, dividing the body into superior<sup>15</sup> and inferior<sup>16</sup> parts.

- ۱- ایستاده
- ۲- روبه رو
- ۳- کنار
- ۴- کف دست
- ۵- رو به جلو
- ۶- موازی
- ۷- به تصویر کشیدن
- ۸- صفحه‌ها
- ۹- مقطع
- ۱۰- قدام
- ۱۱- خلف
- ۱۲- میانی
- ۱۳- عرضی
- ۱۴- افقی
- ۱۵- فوقانی
- ۱۶- تحتانی

Term	Definition
anterior (ventral)	toward or at the front (belly) of the body
posterior (dorsal)	toward or at the back (dorsum) of the body
medial	toward the midline of the body
lateral	toward the side of the body
proximal	nearer to the point of attachment or to a given reference point
distal	farther from the point of attachment or from a given reference point
superior	above, in a higher position
inferior	below, in a lower position
cranial (cephalad)	toward the head
caudal	toward the lower end of the spine (Latin cauda means "tail"); in humans, in an inferior direction
superficial (external)	closer to the surface of the body
deep (internal)	closer to the center of the body

## BODY CAVITIES

Internal<sup>1</sup> organs are located within dorsal<sup>2</sup> and ventral<sup>3</sup> cavities. The dorsal cavity contains the brain in the cranial<sup>4</sup> cavity and the spinal cord in the spinal<sup>5</sup> cavity (canal). The uppermost<sup>6</sup> ventral space, the thoracic<sup>7</sup> cavity, is separated from the abdominal<sup>8</sup> cavity by the diaphragm, a muscle used in breathing. There is no anatomic separation between the abdominal cavity and the pelvic<sup>9</sup> cavity, which together make up the abdominopelvic cavity. The large membrane that lines the abdominopelvic cavity and covers the organs within it is the peritoneum<sup>10</sup> (پریتونوم).

- ۱- داخلی / ۲- پشتی
- ۳- شکمی / ۴- جمجمه‌ای
- ۵- نخاعی / ۶- بالاترین
- ۷- قفسه سینه‌ای
- ۸- شکمی
- ۹- لگنی
- ۱۰- صفاق



## ■ ABDOMINAL REGIONS

For orientation<sup>۱</sup>, the abdomen can be divided by imaginary<sup>۲</sup> lines into nine regions—three medial regions and six lateral regions. The sections down the midline are the:

epigastric (اپی گاستریک) region, located above the stomach

umbilical (امبلیکال) region, named for the umbilicus<sup>۳</sup>, or navel<sup>۳</sup>

hypogastric (هایپوگاستریک) region, located below the stomach

The lateral regions have the same name on the left and right sides. They are the:

hypochondriac (هایپوکاندریاک) regions, right and left, named for their positions near the ribs, specifically near the cartilages (root: *chondr/o*) of the ribs

lumbar (لومبار) regions, right and left, which are located near the small of the back (lumbar region of the spine)

iliac (ایلیاک) regions, right and left, named for the upper bone of the hip, the ilium; also called the inguinal (اینگوینال) regions, with reference to the groin<sup>۴</sup>

More simply, but less precisely, the abdomen can be divided into four sections by a single vertical line and a single horizontal line that intersect<sup>۵</sup> at the umbilicus (navel). The sections are the right upper quadrant (RUQ), left upper quadrant (LUQ), right lower quadrant (RLQ), and left lower quadrant (LLQ).

۱- درک از موقعیت، جهت یابی

۲- فرضی

۳- ناف

۴- کشاله ران

۵- متقاطع شدن



اول از همه ریشه‌های مربوط به سر و تنه رو یاد بگیریم:

Root	Meaning	Example	Definition of Example
cephal/o	سر	Megacephaly (مگاسفالی)	بزرگی غیرطبیعی سر
cervic/o	گردن	cervicofacial (سرویگوفیشیال)	مربوط به گردن و صورت
thorac/o	قفسه سینه، توراکس	thoracotomy (توراکوتومی)	ایجاد برش (incision) در توراکس (-tomy = incision)
abdomin/o	شکم	intraabdominal (اینترا ابدامینال)	درون شکم
celi/o,	شکم	celiocentesis (سلیوسنتزیس)	سوراخ کردن شکم به کمک جراحی (centesis = puncture)
lapar/o	دیواره‌ی شکمی	laparoscope (لاپاروسکوپ)	ابزاری جهت مشاهده حفره‌ی صفاقی از طریق دیواره شکمی
lumb/o	منطقه کمری پایین کمر	thoracolumbar (توراکولومبار)	مربوط به قفسه سینه و کمر
periton, peritone/o	صفاق	peritoneal (پریتونئال)	مربوط به صفاق



دوم از همه ریشه‌های مربوط به دست و پا رو یاد بگیریم:

Root	Meaning	Example	Definition of Example
acro	اندام، انتها (Extremities)	acrocyanosis (اکروسیانوزیس)	تغییر رنگ اندام‌ها به آبی
brachi/o	بازو	antebrachium (آنته براکیوم)	ساعد
dactyl/o	انگشت دست، انگشت پا (finger, toe)	polydactyly (پلی داکتیلی)	داشتن انگشتان بیش از حد نرمال
ped/o	پا	pedometer (پدومیتتر)	ابزاری جهت اندازه گیری قدم
pod/o	پا	podiatric (پودیاتریک)	مربوط به مطالعه و درمان پا

و سوم از همه پیشوندهای مربوط به موقعیت و جهت رو یاد میگیریم:

Root	Meaning	Example	Definition of Example
circum-	دور تا دور، اطراف	circumoral (سیر کامورال)	دور دهان
peri-	دور تا دور، اطراف	periorbital (پری اوربیتال)	دور حلقه چشم
intra-	در، درون (in, within)	intravascular (اینترواسکولار)	درون یک رگ
epi-	روی (on, over)	epithelial (اپیتلیال)	اشاره به اپیتلیوم، بافتی که سطوح را می پوشاند
extra-	خارج	extrathoracic (اکستراتوراسیک)	خارج از توراکس (قفسه سینه)
infra-	زیر	infrascapular (اینفراسکاپولار)	زیر اسکاپولا (کتف)
sub-	زیر، پایین	sublingual (ساب لینگوال)	زیر زبان (lingu/o)
inter-	بین	intercostal (اینترکوستال)	بین دنده‌ها (cost/o)
juxta-	مجاور، نزدیک	juxtaposition (ژوکستاپوزیشن)	پهلوی هم گذاری





Root	Meaning	Example	Definition of Example
para-	مجاور، نزدیک	parasagittal (پاراساجیتال)	نزدیک یا کنار صفحه ساجیتال
retro-	پشت، رو به پشت (Behind, backward)	retrouterine (رترویوترین)	پشت رحم
supra-	بالا	suprapatellar (سوپراپاتلار)	بالای پاتلا (کشکک زانو)

یه دونه به هم وصل کنید زیبا حل کن ببین چطوریه!

- |                       |   |
|-----------------------|---|
| ___ ۱. thoracentesis  | ۱. surgical puncture of the chest         |
| ___ ۲. acrodermatitis | ۲. skin inflammation of the extremities   |
| ___ ۳. laparoscopy    | ۳. pertaining to the right foot           |
| ___ ۴. Dextropedal    | ۴. examination through the abdominal wall |
| ___ ۵. Caudal         | ۵. toward the tail                        |
| ___ ۶. macropodia     | ۶. circular cut                           |
| ___ ۷. subdermal      | ۷. excessive size of the feet             |
| ___ ۸. macrocephaly   | ۸. beneath the skin                       |
| ___ ۹. celiotomy      | ۹. abnormal largeness of the head         |
| ___ ۱۰. circumcision  | ۱۰. incision of the abdomen               |

Answer: ۱. A / ۲. B / ۳. D / ۴. C / ۵. E / ۶. B / ۷. C / ۸. D / ۹. E / ۱۰. A

حالا هم یه سری تست از این مبحث که تو علوم پایه‌های اخیر اومده بزنیم. درسته که تستای کم گذاشتم ولی این درس چون تو تمام درس‌های دیگه به کار میره واسه همین اونجا بهتر یاد میگیری همه رو.

۱. Encephalomalacia is a term which is used in case of ..... Of the brain.

- ۱) softening
- ۲) drainage
- ۳) discharge
- ۴) atrophy

بزنشکی

۲. Adnexa refers to the .....

- ۱) internal part of an organ
- ۲) component parts of lymph
- ۳) external layer of the tissue
- ۴) accessory parts of a structure

بزنشکی

۳. A cervical collar was placed on the victim to stabilize and immobilize the .....

- ۱) uterus
- ۲) pelvis
- ۳) chin
- ۴) neck

بزنشکی

۴. The dissection directed anteroposteriorly was done .....

- ۱) posterior - superior
- ۲) circumferentially
- ۳) front to back
- ۴) top to bottom

بزنشکی



۱. "There's a painful swelling in my arm pit", a patient complains. In anatomical terms, she is complaining of .....

- ۱) enlarged axillary node
- ۲) inguinal swelling
- ۳) periumblical pain
- ۴) pain in antecubital fossa

(روی چین قدامی آرنج: antecubital / تورم: swelling / زیر بغل: axillary)

Answers: ۱. A / ۲. D / ۳. D / ۴. C / ۵. A / ۶. B

۱. A tube placed within the trachea is called .....

- ۱) Intertracheal
- ۲) Endotracheal
- ۳) Intratracheal
- ۴) Ectotracheal

پزشکی قطعی

اینم به متن کاملاً بی ربط با این فصل فقط برای شما 😊 از « پزشکی شهرپور ۹۸ ». دلیل همیشه نیارمش که!!

A hospital's transfusion<sup>1</sup> service is a good source<sup>2</sup> of information about the availability<sup>3</sup> and use of the latest transfusion devices. Using the right device ensures<sup>4</sup> maximal safety<sup>5</sup> and efficiency<sup>6</sup> in transfusing blood products. Blood filters, integral to all transfusion sets, remove debris<sup>7</sup> from blood components. The transfusion service specifies the type of filter to use with a specific blood component and in some institutions<sup>8</sup> selects it and issues<sup>9</sup> it with the blood product.

Specific filters are designed for specific transfusion situations. Using the wrong filter may remove or damage the component intended<sup>10</sup> for transfusion. A standard filter removes small clots<sup>11</sup> and other debris- specifically, degenerated platelets and leukocytes. For optimum<sup>12</sup> effectiveness, the entire filter must be covered with blood and not be in use longer than four hours. Microaggregate filters remove small clots that could slip through standard filters. Microaggregate filters remove up to 70% of leukocytes from a unit of RBCs provided the unit is one week to 10 days old and the leukocytes are first aggregated<sup>13</sup> into larger particles by hard centrifugation.

۱- انتقال خون

۲- منبع

۳- فراهمی

۴- تضمین کردن

۵- امنیت

۶- بازده و اثر

۷- بقایا

۸- موسسه ها

۹- مشکلات

۱۰- تعیین شده

۱۱- لخته ها

۱۲- بهینه و حداکثر

۱۳- جمع شدن

۱. The safety of blood transfusion depends on ....

- ۱) Whether it is administered in the hospital or not.
- ۲) The appropriateness of the devices used.
- ۳) The availability of blood donors.
- ۴) Whether the donor and recipient are well informed.

۲. Blood filters are used .....

- ۱) to analyze blood components
- ۲) to detach red blood cells
- ۳) in almost all transfusion systems
- ۴) only for specific transfusions

۳. Leukocytes are first aggregated into larger particles by hard centrifugation and then .... eliminate up to 70% of leukocytes from a unit of RBCs under circumstances.

- ۱) Standard filters
- ۲) Microaggregate filters
- ۳) Centrifuged filters
- ۴) Integral filters



۱. Blood filters ....

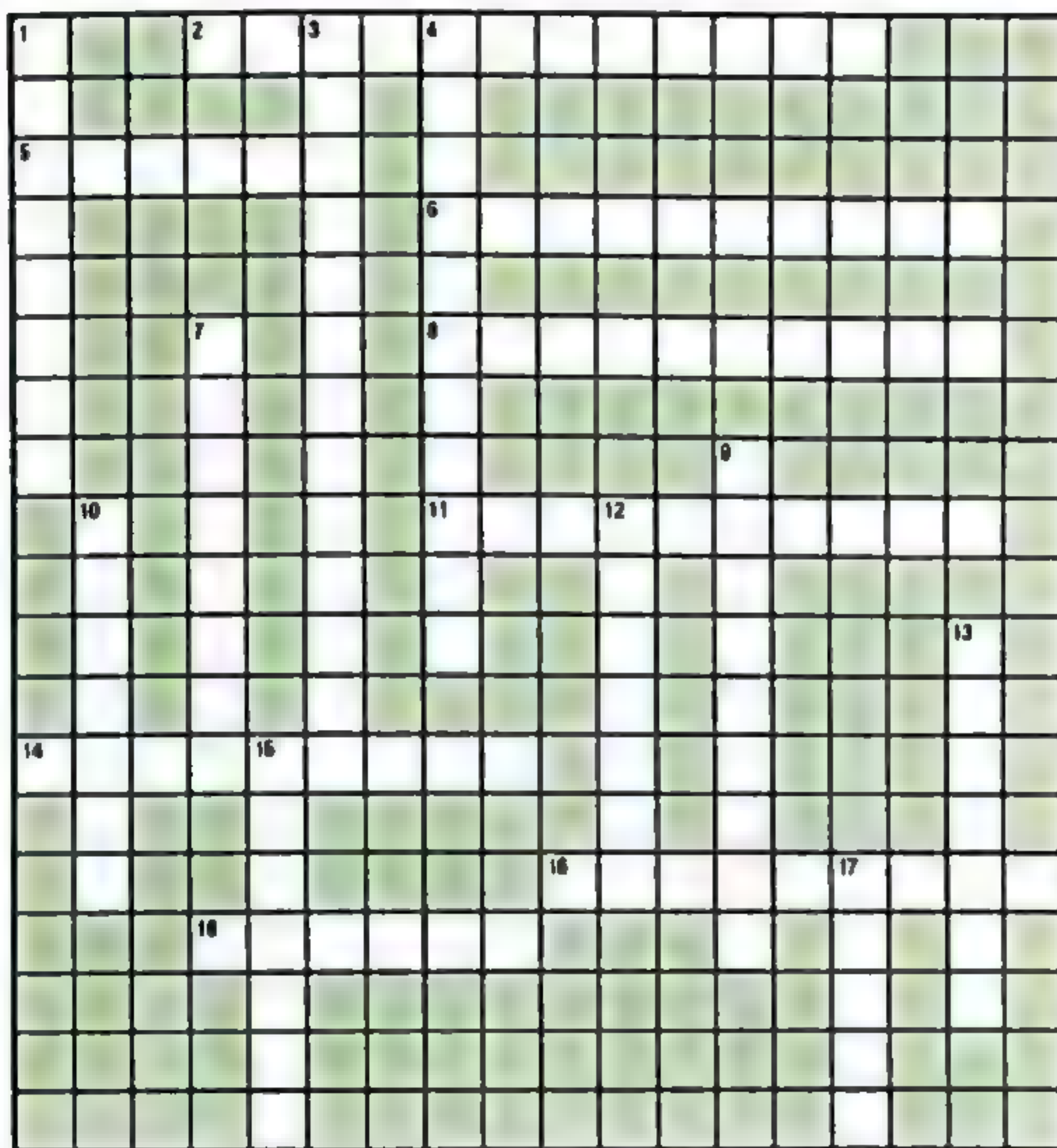
- ۱) take different types and forms
- ۲) are incorporated into clots and debris
- ۳) reduce optimum effectiveness
- ۴) degenerate platelets and leukocytes

۵. The type of filter to be applied for specific blood component is determined by:

- ۱) Institutional Availability
- ۲) Blood product
- ۳) Optimum effectiveness
- ۴) Transfusion service

Answers: ۱. B / ۲. C / ۳. B / ۴. A / ۵. D

اینم به جدول زیبا از مباحث مربوط به این فصل. ممکنه حالا به سرپاشو بلد نباشی ولی یاد میگیری خب!



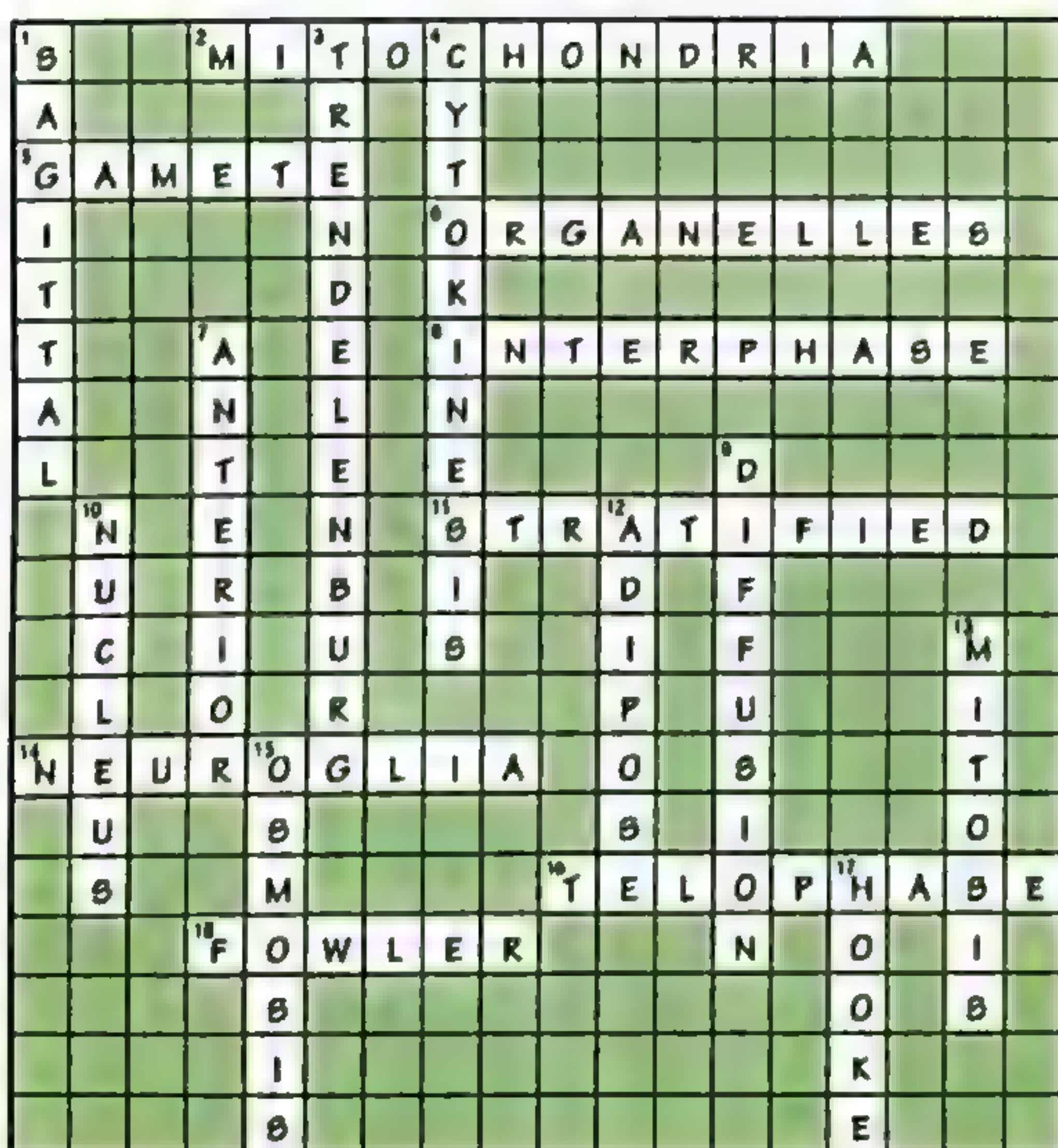
Across

- ۱. Site of adenosine triphosphate production
- ۲. Only type of cell that undergoes meiosis
- ۳. Name for the structures of a cell
- ۴. Growth phase of mitosis
- ۵. Type of epithelial tissue that has three or more layers
- ۶. Support structure of nervous tissue
- ۷. The final step of mitosis
- ۸. Eponym for a position in which the head of the bed is raised and the patient's knees are slightly flexed

Down

- ۱. One of three body reference planes
- ۲. Eponym for a position in which the patient's head is lower than his body or legs
- ۳. Cell movement
- ۴. Word that means in front of
- ۵. When solutes move from an area of higher concentration to an area of lower concentration
- ۶. Largest organelle
- ۷. Type of tissue in which a fat droplet occupies most of the cell
- ۸. Process of cell division from the Greek word for thread
- ۹. Passive transport method whose root comes from the Greek word meaning to push
- ۱۰. Physicist to first coin the term cell

اینم جوابش:





بیماری  
Diseaseفصل ۲  
Unit 4

این درس یکی از مهم‌ترین درس‌ها هست! چون تقریباً پیشوند و پسوند تقریباً تمام بیماری‌ها رو توش یاد میگیری! حواستو جمع کن!

## ■ TYPES OF DISEASES

A disease is any disorder of normal body function. Diseases can be grouped into a number of different but often overlapping<sup>1</sup> categories.

- Infectious diseases are caused by certain harmful<sup>2</sup> **microorganisms** and other **parasites** that live at the expense<sup>3</sup> of another organism. Any disease-causing agent is described as a **pathogen**.
- Degenerative diseases result from wear and tear<sup>4</sup>, aging, or **trauma** (injury<sup>5</sup>) that can lead to a **lesion**<sup>6</sup> (wound<sup>7</sup>) and perhaps **necrosis** (death of tissue). Common examples include arthritis, cardiovascular problems, and certain respiratory disorders such as emphysema. Structural malformations such as congenital malformations, **prolapse** (dropping<sup>8</sup>), or **hernia**<sup>9</sup> (rupture<sup>10</sup>) may also result in degenerative changes.
- Neoplasia is the abnormal and uncontrolled<sup>11</sup> growth of tissue.
- Immune disorders include failures<sup>1</sup> of the immune system, allergies, and autoimmune<sup>2</sup> diseases, in which the body makes antibodies to its own tissues.
- Metabolic disorders result from lack of enzymes or other factors needed for cellular functions. Many hereditary disorders fall into<sup>3</sup> this category. Malnutrition<sup>4</sup> caused by inadequate<sup>5</sup> intake of nutrients or inability<sup>6</sup> of the body to absorb and use nutrients also upsets metabolism.
- Hormonal disorders are caused by underproduction or overproduction of hormones or by an inability of the hormones to function properly. One common example is diabetes mellitus<sup>7</sup>.
- Mental and emotional disorders affect the mind and adaptation<sup>8</sup> of an individual to his or her environment.
- The cause of a disease is its **etiology** (اتیولوژی), although many diseases have multiple interacting<sup>9</sup> causes. An **acute**<sup>10</sup> disease is sudden<sup>11</sup>, severe, and of short duration<sup>12</sup>. A **chronic**<sup>13</sup> disease is of long duration and progresses slowly. One health profession that deals with the immediate effects of acute disease is the emergency medical technician (EMT).

## ■ INFECTIOUS DISEASES

Infectious diseases are caused by viruses, bacteria, fungi<sup>1</sup> (yeasts and molds), protozoa<sup>2</sup> (single-celled animals), and worms (helminths<sup>3</sup>). Infecting organisms can enter the body through several routes<sup>4</sup>, or portals of entry, including damaged skin, respiratory tract, digestive system, and urinary and reproductive tracts. An infected person's bodily discharges<sup>5</sup> may contain organisms that spread infection through the air, food, water, or direct contact. Microorganisms often produce disease by means<sup>6</sup> of the **toxins** (poisons) they release. The presence<sup>7</sup> of harmful microorganisms or their toxins in the body is termed **sepsis**.

- ۱- همپوشانی
- ۲- آسیب رسان
- ۳- به خرج چیزی
- ۴- ساییدگی و پارگی
- ۵- آسیب
- ۶- ضایعه
- ۷- جراحت
- ۸- افتادگی
- ۹- هرنی
- ۱۰- پارگی
- ۱۱- کنترل نشده

- ۱- نارسایی، اختلال
- ۲- خودایمنی
- ۳- قرار گیری
- ۴- سوء تغذیه / ۵- ناکافی
- ۶- ناتوانی

- ۷- دیابت شیرین
- ۸- تطبیق
- ۹- تعامل، تقاطع
- ۱۰- حاد
- ۱۱- ناگهان
- ۱۲- مدت
- ۱۳- مزمن

- ۱- قارچ‌ها (جمع: fungus)
- ۲- تک یاخته / ۳- کرم روده
- ۴- راه، روش
- ۵- ترشحات
- ۶- به وسیله
- ۷- حضور



## • Bacteria

In shape, bacteria are:

(1) Round<sup>1</sup>, or cocci (2) Rod-shaped<sup>2</sup>, or bacilli (3) Curved<sup>3</sup>, including vibrios and spirochetes

Bacteria may be named according to their shape and also by the arrangements<sup>4</sup> they form. They are also described according to the dyes<sup>5</sup> they take up when stained<sup>6</sup> in the laboratory<sup>7</sup>. The most common laboratory bacterial stain is the Gram stain, with which Gram-positive organisms stain purple and Gram-negative organisms stain red.

۱- گرد / ۲- استوانه‌ای

۳- خمیده / ۴- آرایش‌ها

۵- رنگ‌ها / ۶- رنگ آمیزی

۷- آزمایشگاه

## ■ RESPONSES TO DISEASE

### • Inflammation

A common response to infection and to other forms of disease is inflammation<sup>1</sup>. When cells are injured, they release chemicals that allow blood cells and fluids to move into the tissues. This inflow<sup>2</sup> of blood results in the four signs of inflammation: Heat<sup>3</sup> + Pain + Redness<sup>4</sup> + Swelling<sup>5</sup>

The suffix *-itis* indicates inflammation, as in appendicitis (inflammation of the appendix) and tonsillitis (inflammation of the tonsils).

Inflammation is one possible cause of edema, a swelling or accumulation<sup>6</sup> of fluid in the tissues. Other causes of edema include fluid blockage<sup>7</sup>, heart failure, and imbalance<sup>8</sup> in body fluid composition<sup>9</sup>.

۱- التهاب

۲- جریان خون به داخل

۳- گرما

۴- قرمزی

۵- تورم

۶- تجمع

۷- انسداد / ۸- عدم تعادل

۹- ترکیب

### • Phagocytosis

The body uses phagocytosis to get rid of invading<sup>1</sup> microorganisms, damaged cells, and other types of harmful debris. Certain white blood cells are capable of engulfing<sup>2</sup> these materials and destroying them internally. Phagocytic cells are found circulating in the blood, in the tissues, and in the lymphatic system. The remains of phagocytosis consist of fluid and white blood cells, a mixture<sup>3</sup> called pus<sup>4</sup>.

۱- مهاجم

۲- بلعیدن، در بر گرفتن

۳- مخلوط

۴- چرک

### • Immunity

Immunity<sup>1</sup> refers to all our defenses<sup>2</sup> against infectious disease. Inflammation and phagocytosis are examples of inborn or innate<sup>3</sup> protective mechanisms, which are based on a person's genetic makeup<sup>4</sup> and do not require any previous exposure to a disease organism. Other defenses that fall into this category are mechanical barriers<sup>5</sup>, such as intact skin and mucous membranes, as well as body secretions, such as stomach acid and enzymes in saliva and tears<sup>6</sup>.

۱- ایمنی / ۲- عوامل دفاعی

۳- ذاتی

۴- ترکیب

۵- سد های مکانیکی

۶- اشک

Immunity that we develop during life from exposure to disease organisms is termed *adaptive immunity*, or acquired immunity. This type of immunity is specific for particular diseases encountered<sup>1</sup> by natural exposure or by the administration of vaccines. The system responsible for adaptive immunity consists of cells in the blood, lymphatic system, and other tissues. These cells recognize different foreign invaders and get rid of<sup>2</sup> them by direct attack and by producing circulating antibodies that immobilize and help destroy them. The immune system also monitors the body continuously<sup>3</sup> for abnormal and malfunctioning cells, such as cancer cells. The immune system may over-react<sup>4</sup> to produce allergies and may react to one's own tissues to cause autoimmune diseases.

۱- مواجه شدن

۲- خلاص شدن

۳- مداوم

۴- واکنش بیش از حد



## ■ NEOPLASIA

As noted earlier, a neoplasm is an abnormal and uncontrolled growth of tissue—a tumor or growth. A benign<sup>1</sup> neoplasm does not spread<sup>2</sup>, that is, undergo metastasis to other tissues, although it may cause damage at the site where it grows. An invasive neoplasm that can metastasize to other tissues is termed malignant<sup>3</sup> and is commonly called cancer. A malignant tumor that involves epithelial tissue is a carcinoma. If the tumor arises in glandular epithelium, it is an adenocarcinoma (the root *aden/o* means "gland"); a cancer of pigmented epithelial cells (melanocytes) is a melanoma. A neoplasm that involves connective tissue or muscle is a sarcoma. Cancers of the blood, lymphatic system, and nervous system are classified according to the cell types involved and other clinical features.

Often mistaken for a malignancy is a cyst, a sac or pouch<sup>4</sup> filled with fluid or semisolid<sup>5</sup> material that is abnormal but not cancerous. Common sites for cyst formation are the breasts, the skin's sebaceous glands, and the ovaries. Causes of cyst formation include infection or blockage of a duct

۱- خوش خیم

۲- منتشر شدن، گسترش یافتن

۳- بد خیم

۴- کیسه

۵- نیمه جامد

آماده سیل عظیمی از ریشه‌ها و پیشوندها و پسوندها هستی؟؟؟؟ برو که رفتیم ...  
الف) اینا سری ریشه مربوط به بیماری هستن.

Root	Meaning	Example	Definition of Example
alg/o, algi/o, algesi/o	درد	algesia (الجزیا)	وضعیت دارای درد
carcin/o	سرطان، کارسینوما	carcinoid (کارسینوئید)	شبه به کارسینوما
cyst/o	کیسه یا ساک پر مایع کیست، مثانه	cystic (سیستیک)	مربوط به یا دارای کیست
lith	سنگ (کالکولوس)	lithiasis (لیتیاژیس)	تشکیل سنگ
onc/o	تومور	oncogenic (اونکوژنیک)	ایجادکننده‌ی تومور
path/o	بیماری	pathogen (پاتوژن)	ارگانیسمی که بیماری ایجاد می‌کند
py/o	چرک (pus)	pyocyst (پایوسیست)	کیست پر از چرک
pyr/o, pyret/o	تب، آتش (fever)	pyrexia (پایرکسیا)	تب
scler/o	سخت، سفت (hard)	sclerosis (اسکلروزیس)	سفت شدن بافت
tox/o, toxic/o	سم	endotoxin (اندوتاکسین)	سم درون دیواره‌ی باکتری



نذار هوا بره لاش سریع یه تمرین کوچیک حل کن:

۱. The study of toxins \_\_\_\_  
 ۲. pyorrhea means discharge of \_\_\_\_  
 ۳. A lithotomy is an incision to remove \_\_\_\_  
 ۴. A pyrogenic agent induces \_\_\_\_  
 ۵. Arteriosclerosis is a \_\_\_\_ of the arteries

Answer: ۱. Toxicology / ۲. Pus / ۳. Fever / ۴. Hardening / ۵. acalculus

ب) این پیشوندها هم مربوط به بیماری هستن:

Prefix	Meaning	Example	Definition of Example
-brady	آهسته	bradypnea (برادی پنه)	تنفس (pnea-) با سرعت آهسته
-dys	غیرطبیعی، دردناک، دشوار (difficult)	dysplasia (دیس پلازی)	رشد (plas) غیرطبیعی بافت
-mal	بد، ضعیف	malabsorption (مل ابزورپشن)	جذب ضعیف مواد مغذی (سوء جذب)
-pachy	ضخیم	pachycephaly (پلی سفالی)	ضخامت غیرطبیعی جمجمه
-tachy	سریع	tachycardia (تکی کاردیا)	ضربان قلب سریع
-xero	خشکی	xeroderma (زیرودرما)	خشکی پوست

هوا هوا هوا نر هههه

۱. abnormal thickness of fingers  
 ۲. difficulty in swallowing  
 ۳. Abnormal nourishment (-trophy) of tissue  
 ۴. Rapid breathing  
 ۵. painful menstrual periods  
 Answer: ۱. Pachydactyly / ۲. Dysphagia / ۳. Dystrophy / ۴. Tachypnea / ۵. Dysmenorrhea

ج) این پسوندها هم مربوط به بیماری هستن:

Suffix	Meaning	Example	Definition of Example
-algia, -algnesia	درد	neuralgia (نورالژیا)	درد در یک عصب
-cele	هرنی، اتساع موضعی (herniation)	gastrocele (گاستروسل)	فتق معده
-clasis, -clasia	تجزیه و تخریب (breaking)	karyoclasia (کاریوکلایسیس)	تجزیه هسته
-itis	التهاب (inflammation)	cystitis (سیستیتیس)	التهاب مثانه
-emesis	استفراغ (vomiting)	hyperemesis (هایپر مسمیس)	استفراغ شدید، استفراغ بدخیم حاملگی



Suffix	Meaning	Example	Definition of Example
-megaly	بزرگی	hepatomegaly (هپاتومگالی)	بزرگی کبد
-odynla	درد	urodynia (اورودینیا)	درد هنگام ادرار
-oma <sup>1</sup>	تومور	lipoma (لیپوما)	تومور سلول های چربی
-pathy	هر بیماری	nephropathy (نفروپاتی)	هر بیماری کلیه
-rhage <sup>2</sup> , -rhagia <sup>2</sup>	خونریزی، جریان وسیع	hemorrhage (هموریج)	جریان خون وسیع
-rhea <sup>2</sup>	جریان، ترشح (flow, discharge)	pyorrhea (پایوریا)	تخلیه ترشحات چرکی
-rhexis <sup>2</sup>	پارگی (rupture)	amniorrhesis (آمنیورکسیس)	پارگی کیسه آمنیون
-schisis	شکاف (fissure, splitting)	retinoschisis (رتیناسکیزیس)	جدا شدن شبکیه از چشم

دو تا نکته کوچک میخواستم بگویم:

- ۱- یکی راجع جمع بستن اسم های منتهی به -oma که میتونیم از -omas یا -omata استفاده کنیم.  
 ۲- یکی هم راجع به پسوندهایی که با (r) شروع میشن. دقت کنیم که زمانی که این پسوندها رو به کلمه ای اضافه کردیم، دوتا (r) بذاریم.  
 یعنی اینجوری بشه: -rrhage ، -rrhea و ...

این دفعه یه به هم وصل کنی سریع حل کن:

- |                          |  |
|--------------------------|--|
| ___ ۱. gastrodynia       | ۱. local dilation containing fluid                     |
| ___ ۲. meno metrorrhagia | ۲. pain in the stomach                                 |
| ___ ۳. hydrocele         | ۳. pain in the head                                    |
| ___ ۴. cephalgia         | ۴. excessive uterine bleeding                          |
| ___ ۵. hepatorrhesis     | ۵. rupture of the liver                                |
| ___ ۶. steatorrhea       | ۶. Discharge of fatty <u>stools</u> (or <u>feces</u> ) |

Answer: ۱. B / ۲. D / ۳. A / ۴. C / ۵. E / ۶. F

ج) این کلمات به تنهایی به کار میرن اما میتونن به عنوان پسوند مربوط به بیماری باشن:

Word	Meaning	Example	Definition of Example
dilation, dilatation	اتساع، گشاد شدن	vasodilation (ویزودایلیشن)	متسع شدن عروق خونی
ectasia, ectasis	اتساع، متسع شدن (Distention)	gastrectasia (گاسترکتیزیا)	اتساع معده



Word	Meaning	Example	Definition of Example
edema	تجمع مایع، تورم	cephaledema (سفالدهما)	تورم سر
lysis	جدا کردن، آزاد کردن حل کردن، تخریب کردن	dialysis (دایالیزیس)	جدایی مواد با عبور از طریق یک غشا
malacia	نرمی (softening)	craniomalacia (کراتیومالاسیا)	نرمی جمجمه
necrosis	مرگ بافت	osteonecrosis (اوستئونکروزیس)	مرگ بافت استخوان
ptosis	افتادگی، جابه جایی به پایین (prolapse)	blepharoptosis (بلفاروپتوزیس)	افتادگی پلک (blephar/o)
sclerosis	سخت و سفت شدن	phlebosclerosis (فلبواسکلروزیس)	سفت شدن ورید
spasm	انقباض ناگهانی، کرامپ	arteriospasm (آرتیریواسپاسم)	اسپاسم یک شریان
stasis	سرکوب، توقف	menostasis (منواستازیس)	مهار جریان قاعدگی
stenosis	تنگی، باریک شدگی	bronchostenosis (برونکواستنوزیس)	تنگی برونش (تایژه)
toxin	سم	nephrotoxin (نفروتوکسین)	مواد سمی یا آسیب رسان برای کلیه

به تمرینم از این جدول:

- |                         |                                |
|-------------------------|--------------------------------|
| ___ ۱. myolysis         | ۱۱. destruction of blood cells |
| ___ ۲. osteomalacia     | ۱۲. death of heart tissue      |
| ___ ۳. cardioneclerosis | ۱۳. stoppage of blood flow     |
| ___ ۴. hemolysis        | ۱۴. softening of a bone        |
| ___ ۵. hemostasis       | ۱۵. dissolving of muscle       |

Answer: ۱. E / ۲. D / ۳. B / ۴. A / ۵. C

(د) اینا هم به سری ریشه و پیشوند برای مربوط به بیماری های عفونی هستن:

Word	Meaning	Example	Definition of Example
staphylo-	خوشه شکل انگور	staphylococcus (استافیلوکوکوس)	یک باکتری گرد که خوشه تشکیل می دهد
strepto-	زنجیره پیچ خورده	streptobacillus (استریتوباسیلوس)	یک باکتری میله ای که زنجیر تشکیل میدهد



Word	Meaning	Example	Definition of Example
bacill/o, bacill/i	باکتری	bacilluria (باسیلوریا)	باسیل در ادرار (-uria)
bacteri/o		bacteriostatic (باکتریواستاتیک)	توقف (statis) رشد باکتری
myc/o	مخمر، قارچ	mycotic (مایکوتیک)	مربوط به قارچ
vir/o	ویروس	viremia (ویرمیا)	حضور ویروس در خون

یه تمرین هم از این یکی جدول:

۱. A bactericidal agent kills \_\_\_\_ ۲. study of viruses  
۳. study of fungi ۴. A mycosis is any disease caused by a \_\_\_\_

Answer: ۱. Bacteria / ۲. Mycology / ۳. Virology / ۴. Fungus

تست این مبحث خیلی زیاده ولی ما فقط چندتاشو میذاریم اینجا بقیشم تو بقیه درسا یاد میگیری.

۱. What does the medical term "dermatomy-  
cosis" mean?

- ۱) Accumulation of pus under the skin  
۲) Infection of the skin caused by fungi  
۳) Muscle infection under the skin  
۴) Hemorrhagic area under the skin

پزشکی قطعی

۲. A malignant neoplasm arising from muscle  
or connective tissue is a (an) .....

- ۱) Melanoma  
۲) Osteoma  
۳) Sarcoma  
۴) Carcinoma

پزشکی قطعی

۳. Condition of profound ill health, malnutri-  
tion and wasting is referred to as .....

- ۱) achalasia  
۲) dyspepsia  
۳) cachexia  
۴) dysarthria

پزشکی قطعی

۲. A cystoscope is an instrument used most com-  
monly by which of the following specialists?

- ۱) Endocrinologist  
۲) Gastroenterologist  
۳) Dermatologist  
۴) Urologist

پزشکی قطعی

۴. The term for a condition or disease of un-  
known etiology is:

- ۱) acute  
۲) chronic  
۳) idiopathic  
۴) iatrogenic

پزشکی قطعی

۵. The word in the case studies that means  
"protrusion of an organ through an abnormal  
body opening" is .....

- ۱) Hernia  
۲) Stenosis  
۳) Neoplasm  
۴) Myolysis

پزشکی قطعی



۱. He was diagnosed with ..... because of acute inflammatory, purulent bacterial dermatitis.

- ۱) xeroderma                      ۲) scieroderma  
۳) pyoderma                    ۴) lipoderma

پزشکی عمومی - آنژیولوژی

۲. Sialolithiasis refers to the formation of stones in the .....

- ۱) Salivary glands              ۲) Urinary bladder  
۳) Lacrimal glands            ۴) Gall bladder

پزشکی عمومی

۳. The patient presented with ..... and with the chief complaint that objects appear yellow.

- ۱) xanthopsia                    ۲) cyanopsia  
۳) erythroplasia              ۴) melanoma

پزشکی عمومی - آنژیولوژی

۴. To remove the accumulated fluid from the patient's knee, the surgeon performed ..... by puncturing his joint space.

- ۱) arthrodesis                    ۲) arthropexy  
۳) arthrorrhaphy              ۴) arthrocentesis

پزشکی عمومی - آنژیولوژی

۵. An antipyretic is used to?

- ۱) Prevent a cold              ۲) Aid in digestion  
۳) Treat an infection        ۴) Treat a fever

پزشکی عمومی

۶. The patient with intractable pain was referred to the hospital where the surgeon decided that he undergo ..... to destroy and breakdown the nerve.

- ۱) neuralgia                      ۲) neurolysis  
۳) neurogenesis              ۴) neurotropic

پزشکی عمومی - آنژیولوژی

۷. Disruption of the normal flora is defined as .....

- ۱) dyskeratosis                ۲) dysbiosis  
۳) dyshydrosis              ۴) dynapen

پزشکی عمومی - آنژیولوژی

Answers: ۱. B / ۲. D / ۳. C / ۴. C / ۵. A / ۶. C / ۷. D / ۸. A / ۹. B / ۱۰. A \ ۱۱. B \ ۱۲. B \ ۱۳. D

اینم به متن از «پزشکی اسفند ۹۹» که راجع به دیابته.

Diabetes mellitus<sup>1</sup>(DM) is a chronic<sup>2</sup> disease with a global prevalence<sup>3</sup> that continues to grow and is associated with both a significant individual and public health burden. Lifestyle modifications including medical nutritional therapy remain the cornerstones of successful management of DM , in conjunction with glucose-lowering medications when indicated. In addition, education on the principles of physical activity, on the need for self-monitoring<sup>4</sup> of blood glucose , and on the adjustment<sup>5</sup> of appropriate medications during times of illness<sup>6</sup>, for example , are vital<sup>7</sup> to the person with DM. The multidisciplinary<sup>8</sup> health care team should work together with the patient with DM to achieve good glycemic control ,attain optimum<sup>9</sup> serum lipid levels and blood pressure , and maintain<sup>10</sup> a desirable body weight , as well as other risk factor modifications to prevent<sup>11</sup> the development of long-term complications of DM and reduce<sup>12</sup> the morbidity and mortality<sup>13</sup> associated with this chronic disease.

- ۱- دیابت شیرین
- ۲- مزمن
- ۳- شیوع جهانی
- ۴- نظارت بر خود
- ۵- تنظیم - تعدیل
- ۶- بیماری
- ۷- حیاتی
- ۸- وابسته به چند رشته علمی
- ۹- مقدار مطلوب
- ۱۰- حفظ کردن
- ۱۱- جلوگیری کردن
- ۱۲- کاهش دادن
- ۱۳- مرگ و میر



۱. Diabetes mellitus ..... recent advances in medicaments.

- ۱) has already been controlled with
- ۲) is still on the rise in spite of
- ۳) is limited to certain regions owing to
- ۴) has little impact on social health due to

۲. Methods of monitoring blood glucose, and adjusting suitable medications during times of illness.....

- ۱) should be done by a medical doctor
- ۲) can be taught to the person with DM
- ۳) is to be performed in health centers
- ۴) is to be excluded from the treatment plan

۳. The text implies that with proper treatment, DM.....

- ۱) will seldom be inherited from parents
- ۲) can be eradicated in short term
- ۳) can be controlled though still present
- ۴) will become a non-communicable disease

۳. Glucose-lowering medications ..... in treating DM

- ۱) are to be permanently followed
- ۲) are more important than lifestyle changes
- ۳) should precede nutritional therapy
- ۴) should accompany medical nutritional therapy if necessary

۴. Treating a person with a DM is viewed, in this paragraph, as a/an

- .....
- ۱) short term effort
- ۲) ineffective undertaking
- ۳) sole change in lifestyle
- ۴) long lasting procedure

Answers: ۱. B / ۲. D / ۳. B / ۴. D / ۵. C

## Reading Comprehension: (پیشگی شورپور ۱۴۰۰)

era sllec rellik dereenigne yllaciteneG .ynamreG ni emit tsrif eht rof sgurd dereenigne yllaciteneg htiw detaert neeb evah stneitap recnac .sllec rellik fo noitcejni na eviecer stneitap recnac eht .noisufni lamron a sa sselniap sa si euqinhcet eht .recnac tsniaga thgif eht ni tssisa ot ,ssenevitceffe rieht esaercni ot redro nl .yrotarobal eht ni deifidom ylsuoiverp neeb evah ,romut eht kcatta hcihw ,sllec enummi esehT eht etartenep serehps eht ,ssecorp siht gniruD .noitamrofni citeneg laiceps yrrac hcihw serehps dlog etunim htiw dedrabmob era yeht eht snialpxe " ,romut eht emusnoc dna kcatta dluohs sllec rellik " .tneitap eht ot deretsinimda neht era hcihw ,sllec esnefed eht fo suelcun ypareht latnemirepxe ylerup a llits si siht sa tsedom niamer snoitatcepxE .gnittiW tdragruB rosseforP tsigoloib ralucelom desab-nilreB eht tfel ew taht emit hgih saw ti " ,sselehtreveN .tnemtaert fo smrof rehto yna ot dnopser regnol on ohw stneitap recnac lli yllataf rof " .recnac revo hpmuirt ot ecnahc ylno eht si ypareht citeneg esuaceb ,stneitap eht ot tnew dna yrotarobal



1. This passage is mainly about .....

- 1) cancer patients' immune system
- 2) cancer research in different parts of the globe
- 3) a new method used for normal infusions
- 4) a technique used hopefully to treat cancer

2. As mentioned in this passage, the ..... are modified in the laboratory.

- 1) malignant tumors
- 2) benign tumors
- 3) cancerous cells
- 4) killer cells

3- The method mentioned in the passage is .....

- 1) widely used at present in laboratories
- 2) just in its experimental stage
- 3) believed to be surely effective
- 4) commonly practicable for all cancers

4. The underlined expression "this process" refers to .....

- 1) carrying special genetic information
- 2) bombarding the tumor cells with gold spheres
- 3) injecting the cells to the fatally ill cancer patients
- 4) attacking the tumor cells

5. As explained in the passage, Professor Burghardt Witting believes that .....

- 1) fight against cancer should be as painless as a normal infusion
- 2) research on cancer therapy in laboratories is the only way to defeat cancer
- 3) there is no other way to fight against cancer but genetic therapy
- 4) cancer patients are no longer able to escape this fatal illness

Answers: 1. D / 2. D / 3. B / 4. B / 5. C



## تشخیص و درمان؛ جراحی

## Diagnosis and Treatment; Surgery

## فصل ۵

## Unit 5

این درس یکی از مهم‌ترین درس‌ها هست! چون تقریباً پیشوند و پسوند تقریباً تمام بیماری‌ها رو توش یاد می‌گیری! حواستو جمع کن!

## ■ INTRODUCTION

Medical care begins with assessing<sup>1</sup> a disorder using information gathered<sup>2</sup> from the patient and a variety of testing and examination<sup>3</sup> methods<sup>4</sup>. Based on these results, a course<sup>5</sup> of treatment is recommended<sup>6</sup> that may include surgery.

- ۱- ارزیابی / ۲- جمع‌آوری کردن
- ۳- معاینه / ۴- روش‌ها
- ۵- مسیر / ۶- توصیه شدن

## ■ DIAGNOSIS

Medical diagnosis, the determination<sup>1</sup> of the nature and cause of an illness, begins with a patient history<sup>2</sup>. This includes a history of the present illness with a description<sup>3</sup> of symptoms<sup>4</sup> (evidence of disease), a past medical history, and a family and a social history.

A physical examination, which includes a review<sup>5</sup> of all systems and observation<sup>6</sup> of any signs<sup>7</sup> of illness, follows the history taking. Practitioners use the following techniques in performing<sup>8</sup> physicals:

- ۱- تعیین / ۲- شرح حال
- ۳- توضیح / ۴- علائم
- ۵- بررسی / ۶- مشاهده
- ۷- نشانه‌ها
- ۸- انجام دادن
- ۹- معاینه
- ۱۰- لمس
- ۱۱- دق
- ۱۲- سمع

- Inspection<sup>9</sup>: visual examination
- Palpation<sup>10</sup>: touching the surface of the body with the hands or fingers
- Percussion<sup>11</sup>: tapping the body to evaluate tissue according to the sounds produced
- Auscultation<sup>12</sup>: listening to body sounds with a stethoscope.

Vital<sup>1</sup> signs (VS) are also recorded<sup>2</sup> for comparison<sup>3</sup> with normal ranges. VS are measurements that reflect<sup>4</sup> basic functions necessary to maintain<sup>5</sup> life and include:

- Temperature<sup>6</sup> (T).
- Pulse rate, measured in beats per minute (bpm). Pulse rate normally corresponds<sup>7</sup> to the heart rate (HR), the number of times the heart beats<sup>8</sup> per minute.
- Respiration rate (R), measured in breaths per minute.
- Blood pressure (BP), measured in millimeters of mercury (mm Hg) and recorded when the heart is contracting (systolic pressure) and relaxing (diastolic pressure). An examiner typically uses a stethoscope and a blood pressure cuff, or sphygmomanometer (اسفیگومانومتر), to measure blood pressure. Newer devices that read blood pressure directly and give digital readings are also in use.

- ۱- حیاتی
- ۲- ثبت کردن
- ۳- مقایسه کردن
- ۴- منعکس کردن
- ۵- حفظ کردن
- ۶- دما
- ۷- رابطه داشتن، مطابق بودن
- ۸- ضربان

Additional tools used in physical examinations include the ophthalmoscope, for examination of the eyes; the otoscope, for examination of the ears; and hammers<sup>1</sup> for testing reflexes.

The skin, hair, and nails provide easily observable indications<sup>2</sup> of a person's state of health. Skin features such as color, texture<sup>3</sup>, thickness, and presence of lesions (local injuries) are noted throughout the course of the physical examination.

Diagnosis is further aided<sup>4</sup> by laboratory test results. These may include tests on blood, urine, and other body fluids and the identification of infectious organisms. Additional tests may include study of the electrical activity of tissues such as the brain and heart, examination of body cavities by means of an endoscope, and imaging techniques. Biopsy<sup>5</sup> is the removal of tissue for microscopic examination. Biopsy specimens can be obtained by:

- Needle withdrawal (aspiration) of fluid, as from the chest or from a cyst
- A small punch, as of the skin
- Endoscopy, as from the respiratory or digestive tract
- Surgical removal, as of a tumor or node

- ۱- چکش
- ۲- نشانه، علامت
- ۳- بافت و الگو
- ۴- کمک شدن
- ۵- نمونه برداری

In some cases, cancer can be diagnosed and its treatment monitored by a liquid biopsy, which relies on<sup>1</sup> analysis of cancerous cells or tumor DNA in circulating blood. These samples are easier to obtain, may give a more complete picture of tumor spread than isolated tissue biopsies, and may someday be used as screening tests for hard-to-diagnose types of cancer.

- ۱- تکیه داشتن بر



## • Imaging Techniques

Imaging techniques employ<sup>1</sup> various types of energy to produce visual images of the body. The most fundamental<sup>2</sup> imaging method is radiography, which uses x-rays to produce an image (radiograph) on film or to produce a digital image that can be viewed on a monitor. Radiography is the preferred method for imaging dense<sup>3</sup> tissues, such as bone. Some soft-tissue structures can be demonstrated<sup>4</sup> as well, but a contrast<sup>5</sup> medium, such as a barium mixture, may be needed to enhance<sup>6</sup> visualization. Other forms of energy used to produce diagnostic images include sound waves, radioactive isotopes, radio waves, and magnetic fields.

## ■ TREATMENT

If diagnosis so indicates, treatment, also termed therapy<sup>1</sup>, is begun. This may consist of counseling<sup>2</sup>, drugs, surgery, radiation, physical therapy, occupational therapy, psychiatric treatment, or some combination<sup>3</sup> of these. Palliative therapy<sup>4</sup> is treatment that provides relief<sup>5</sup> but is not intended as a cure<sup>6</sup>. Terminally<sup>7</sup> ill patients, for example, may receive treatment that eases pain and provides comfort but is not expected to change the outcome<sup>8</sup> of the disease. During diagnosis and throughout the course of treatment, a patient is evaluated to establish a prognosis<sup>9</sup>—that is, a prediction of the disease's outcome.

## • Surgery

Surgery is a method for treating disease or injury by manual operations. Surgery may be done through an existing body opening, but usually it involves cutting<sup>1</sup> or puncturing<sup>2</sup> tissue with a sharp<sup>3</sup> instrument in the process of incision<sup>4</sup>. Surgery usually requires some form of anesthesia<sup>5</sup> to dull<sup>6</sup> or eliminate pain. After surgery, incisions must be closed for proper healing. Traditionally, surgeons have used stitches<sup>7</sup> or sutures to close wounds, but today they also use adhesive strips<sup>8</sup>, staples<sup>9</sup>, and skin glue.

Many types of operations are now performed with a laser, an intense beam of light. Some procedures require destruction of tissue by a harmful agent, such as by heat or a chemical, in the process of cautery<sup>10</sup> or cauterization. Surgeons are now increasingly using computer-assisted robotic surgery for certain procedures. In this type of operation, the surgeon uses robotic instruments manipulated<sup>11</sup> remotely<sup>12</sup> or by a computer. These operations can be less invasive than standard surgeries and result in less bleeding. The method has been used mainly for urogenital procedures, some joint replacement, correction of certain heart abnormalities, and gallbladder removal.

Some of the purposes of surgery include:

- **Treatment:** For excision<sup>1</sup> (cutting out) of diseased or abnormal tissue, such as a tumor or an inflamed appendix. Surgical methods are also used to repair wounds or injuries, as in skin grafting<sup>2</sup> for burns or for realigning broken bones. Surgical methods are used to correct circulatory problems and to return structures to their normal positions, as in raising a prolapsed<sup>3</sup> organ, such as the urinary bladder, in a surgical fixation procedure.
- **Diagnosis:** To remove tissue for laboratory study in a biopsy, as previously described. Exploratory surgery<sup>4</sup> to investigate the cause of symptoms is performed less frequently now because of advances in noninvasive diagnostic and imaging techniques.
- **Restoration:** Surgery may compensate<sup>5</sup> for lost function, as when a section of the intestine is redirected in a colostomy, a tube is inserted to allow breathing in a tracheostomy, a feeding tube is inserted, or an organ is transplanted. Surgeons may perform plastic or reconstructive surgery to accommodate<sup>6</sup> a prosthesis (substitute<sup>7</sup> part), to restore proper appearance, or for cosmetic reasons.
- **Relief:** Palliative surgery relieves pain or discomfort, as by cutting the nerve supply to an organ or reducing the size of a tumor to relieve pressure.

- ۱- به کار گرفتن
- ۲- پایه‌ای
- ۳- متراکم
- ۴- نشان دادن
- ۵- ماده حاجب
- ۶- تقویت کردن

- ۱- درمان / ۲- مشاوره کردن
- ۳- ترکیبی از
- ۴- درمان تسکینی، درمان حمایتی
- ۵- آسایش / ۶- درمان قطعی
- ۷- شدید / ۸- نتیجه
- ۹- پیش‌آگهی

- ۱- بریدن / ۲- سوراخ کردن
- ۳- تیز / ۴- برش به کمک جراحی
- ۵- بی‌هوشی، بی‌حسی
- ۶- کاهش شدت
- ۷- بخیه
- ۸- نوار
- ۹- گیره
- ۱۰- سوزاندن
- ۱۱- اداره کردن
- ۱۲- از راه دور

- ۱- برداشت، خارج کردن
- ۲- پیوند پوست
- ۳- افتادگی

- ۴- جراحی اکتشافی

- ۵- جبران کردن

- ۶- جاسازی کردن و تطبیق دادن
- ۷- مصنوعی



Surgery may be done in an emergency or urgent<sup>1</sup> situation under conditions of acute danger, as in traumatic injury or severe blockage. Other procedures, such as cataract removal from the eye, may be planned when convenient<sup>2</sup>. Elective or optional surgery<sup>3</sup> would not cause serious consequences if delayed or not done.

Over time, surgery has extended beyond the classic operating room of a hospital to other hospital areas and to private surgical facilities where people can be treated within one day as outpatients. Preoperative care is given before surgery and includes examination, obtaining the patient's informed consent<sup>4</sup> for the procedure, and preadmission testing. Postoperative care includes recovery from anesthesia, follow-up evaluations, and instructions for home care.

## ■ ALTERNATIVE AND COMPLEMENTARY MEDICINE

During the past century, the leading causes of death in industrialized countries have gradually shifted from infectious diseases to chronic diseases of the cardiovascular and respiratory systems and cancer. In addition to advancing age, life habits and the environment greatly influence these conditions. As a result, many people have begun to consider healing practices from other philosophies and cultures as alternatives<sup>1</sup> and complements<sup>2</sup> to conventional<sup>3</sup> Western medicine. Some of these philosophies include osteopathy, naturopathy, homeopathy, and chiropractic. Techniques of acupuncture, biofeedback, massage, and meditation may also be used, as well as herbal remedies<sup>4</sup> and nutritional counseling on diet, vitamins, and minerals. Complementary and alternative therapies emphasize<sup>5</sup> maintaining health rather than treating disease and allowing the body opportunity to heal itself. These ideas fit into the concept of holistic healthcare<sup>6</sup>, which promotes treating an individual as a whole with emotional, social, and spiritual needs in addition to physical needs and encouraging people to be involved in their own health maintenance.

## ■ CANCER

Methods used in the diagnosis of cancer include physical examination, biopsy, imaging techniques, and laboratory tests for abnormalities, or "markers," associated with specific types of malignancies. Some cancer markers are byproducts<sup>1</sup>, such as enzymes, hormones, and cellular proteins, that are abnormal or are produced in abnormal amounts. Researchers have also linked specific genetic mutations to certain forms of cancer.

Oncologists (cancer specialists) use two methods, grading and staging, to classify cancers, select and evaluate therapy, and estimate<sup>2</sup> disease outcome. Grading is based on histologic (tissue) changes observed in tumor cells when they are examined microscopically. Grades increase from I to IV with increasing cellular abnormality.

Staging is a procedure for establishing the clinical extent<sup>1</sup> of tumor spread, both at the original site and in other parts of the body (metastases). The TNM system is commonly used. These letters stand for primary tumor (T), regional<sup>2</sup> lymph nodes (N), and distant<sup>3</sup> metastases (M). Evaluation in these categories varies for each type of tumor. Based on TNM results, a stage ranging in severity from I to IV is assigned<sup>4</sup>. Cancers of the blood, lymphatic system, and nervous system are evaluated by different standards.

The most widely used methods for treatment of cancer are surgery, radiation therapy, and chemotherapy (treatment with chemicals). Newer methods of immunotherapy use substances that stimulate the immune system as a whole or vaccines prepared specifically against a tumor. Hormone therapy may also be effective against certain types of tumors. When no active signs of the disease remain, the cancer is said to be in remission<sup>5</sup>.

۱- اورژانسی

۲- مناسب

۳- جراحی اختیاری

۴- رضایت آگاهانه

۱- جایگزین

۲- مکمل

۳- مرسوم

۴- داروهای گیاهی

۵- تاکید داشتن

۶- مراقبت از سلامت جامع نگر

۱- محصولات فرعی

۲- تخمین زدن

۱- گسترش از نظر بالینی

۲- منطقه‌ای

۳- دور

۴- اختصاص دادن، معین کردن

۵- بهبودی



اینجا حالا مثل فصل قبل سیل عظیم نیست ولی چیزی از بزرگ بودن و مهم بودنش کم نمیکند! الف) اینا سری ریشه مربوط به نیروهای فیزیکی هستن.

Root	Meaning	Example	Definition/Example
aer/o	هوا، گاز	aerobic (ایروبیک)	مربوط به یا نیاز به هوا (اکسیژن)
bar/o	فشار	barometer (بارومتر)	ابزاری جهت اندازه گیری فشار
chrom/o, chromate/o	رنگ (color, stain)	chromatic (کروماتیک)	دارای رنگ
chron/o	زمان	chronologic (کرونولوجیک)	مرتب شدن براساس زمان وقوع
cry/o	سرما	cryoprobe (کرایوپروب)	ابزاری جهت اعمال سرمای شدید
electr/o	الکتریسته	electrolysis (الکترولاسیس)	تجزیه یک ماده به وسیله جریان برق
erg/o	کار	synergistic (سینرژستیک)	کار کردن کنار هم همراه با افزایش اثر
phon/o	صدا، صوت	phonograph (فونوگراف)	ابزاری جهت تولید مجدد صدا
phot/o	نور	photoreaction (فوتوری اکشن)	پاسخ به نور
radi/o	اشعه، x-ray	radiology (ریدیالوژی)	مطالعه و استفاده از رادیاسیون (اشعه)
son/o	صوت	sonogram (سونوگرام)	مدرک گرفته شده به وسیله سونوگرافی
therm/o	گرما، دما	hypothermia (هایپوترمیا)	دمای پایین بدن به طور غیرطبیعی

اون داستان هوا و لاش و این حرفا، در نتیجه سری حل کن این تمرین رو:

- |                     |                                     |
|---------------------|-------------------------------------|
| ___ ۱. hyperthermia | ۱. abnormally high body temperature |
| ___ ۲. hyperbaric   | ۲. any pigmented cell               |
| ___ ۳. synchrony    | ۳. pertaining to increased pressure |
| ___ ۴. radioactive  | ۴. occurrence at the same time      |
| ___ ۵. chromocyte   | ۵. giving off radiation             |

Answer: ۱. A / ۲. C / ۳. D / ۴. E / ۵. B



ب) این هم به سری پسوند مربوط به تشخیص هستند:

Suffix	Meaning	Example	Definition of Example
-graph	ابزار جهت ثبت داده‌ها	polygraph (پلی گراف)	ابزاری جهت ثبت بسیاری از پاسخ‌های فیزیولوژیک به طور همزمان، دروغ سنج
-graphy	عمل ثبت و تفسیر داده‌ها	echography (اکوگرافی)	ثبت داده گرفته شده توسط اولتراسوند (فراصوت)
-gram <sup>۱</sup>	یک داده ثبت شده	electrocardiogram (الکتروکاردیوگرام)	ثبت فعالیت الکتریکی قلب
-meter	ابزار جهت اندازه گیری	calorimeter (کالریمتر)	ابزاری جهت اندازه گیری کالری غذا
-metry	اندازه گیری چیزی	audiometry (اودیومتری)	اندازه گیری شنوایی (audi/o)
-scope	ابزار جهت مشاهده یا معاینه	bronchoscope (برونکوسکوپ)	ابزاری جهت معاینه نایژه‌ها
-scopy	معاینه‌ی چیزی	celioscopy (سلئواسکوپ)	معاینه حفره شکمی (celi/o)

۱- تصویری که توسط X-ray گرفته شده باشد، radiograph خوانده می‌شود. اگر تکنیک خاصی استفاده شده باشد تا یک تصویر به کمک X-ray گرفته شود، از gram - استفاده می‌کنیم. مثلاً urogram (دستگاه ادراری)، angiogram (عروق خونی).

یه تمرینم اینجا حل کن:

- |                    |   |
|--------------------|---|
| ___ ۱. microscope  | ۱. examination of the abdomen                 |
| ___ ۲. ergometry   | ۲. a record of sound                          |
| ___ ۳. thermometer | ۳. measurement of work done                   |
| ___ ۴. laparoscopy | ۴. instrument for measuring temperature       |
| ___ ۵. sonogram    | ۵. instrument for examining very small object |

Answer: ۱. E / ۲. C / ۳. D / ۴. A / ۵. B

ج) این پسوندها هم مربوط به جراحی هستند:

Suffix	Meaning	Example	Definition of Example
-centesis	سوراخ کردن، مایع کشیدن (puncture, tap)	thoracentesis (توراستنتریس)	سوراخ کردن قفسه سینه
-desis	اتصال، ادغام	pleurodesis (پلورودسیس)	اتصال پلور (پرده جنب)
-ectomy	برش، برداشت به کمک جراحی (excision)	hepatectomy (هپاتکتومی)	برداشت بافت کبد





Suffix	Meaning	Example	Definition of Example
-pexy	ثابت سازی (fixation) به کمک جراحی	hysteropexy (هیستروپکسی)	فیکساسیون رحم
-plasty	جراحی پلاستیک، ترمیم، بازسازی (restoration)	rhinoplasty (رینوپلاستی)	جراحی پلاستیک بینی
-rhaply	بخیه زدن، ترمیم به کمک جراحی (repair, suture)	herniorrhaphy (هرنیورافی)	ترمیم جراحی یک فتق
-stomy	ایجاد منفذ به کمک جراحی	tracheostomy (تراکئوستومی)	ایجاد یک منفذ در نای
-tome	ابزاری جهت ایجاد برش	microtome (میکروتوم)	ابزاری برای بریدن مقاطع باریک یک بافت برای مطالعه میکروسکوپی
-tomy	برش، بریدن (incision)	laparotomy (لاپاروتومی)	ایجاد برش در شکم
-tripsy	خرد کردن، له کردن	lithotripsy (لیتوتریپسی)	خرد کردن سنگ کلیه

خب حالا با استفاده از مثانه (cyst/o) کلمات زیر رو بساز ببینم.

۱. Incision into bladder  
۲. Surgical fixation of the bladder  
۳. Plastic repair of the bladder  
۴. Surgical repair of the bladder  
۵. Creation of an opening into bladder

Answer: ۱. Cystotomy / ۲. Cystopexy / ۳. Cystoplasty / ۴. Cystorrhaphy / ۵. Cystostomy

این مبحث هم باز خیلی تست خیز هست و تو مباحث مختلف باهاش مواجه میشی. برای همین اینجا فقط به تستای خوب جدید بسنده میکنیم.

۱. Which term is used to refer to aspiration of fluid from the joint by needle puncture?

- ۱) arthrodesis  
۲) arthroscopy  
۳) rheumatoid arthritis  
۴) arthrocentesis

پزشکی قلبی

۲. The patient was strongly advised to go under nephrolithotomy or ..... by surgical procedure.

- ۱) hardening of a stone in the kidney  
۲) removal of the urinary bladder  
۳) excision of the kidney and stones  
۴) incision to remove a renal calculus

پزشکی قلبی

۳. Which of the following is a surgical procedure in which a pendulous breast is lifted and fixed to the chest wall?

- ۱) Mastostomy  
۲) Mastotomy  
۳) Mastectomy  
۴) Mastopexy

پزشکی قلبی

۴. The medical team recommended ..... as the best treatment for the patient to remove the gallbladder surgically.

- ۱) cholecystotomy  
۲) cholecystectomy  
۳) cystotomy  
۴) cystectomy

میان دوره کنکور - آذر ۸۸



۱. Surgical attachment of the urinary bladder to the abdominal wall or to other supporting structures is referred to as .....

- ۱) tracheotomy
- ۲) pachydactyly
- ۳) arthrodesis
- ۴) cystopexy

پزشکی میان دوره کشوری - شهید بهشتی

۲. Before an endoscopy, the patient's ..... consent should be obtained.

- ۱) informative                      ۲) informational
- ۳) informing                      ۴) informed

پزشکی قطبی

۳. A 45- year- old female with knee pain and swelling was referred to a rheumatologist. The specialist performed her a (an) ..... in his office.

- ۱) arthrodesis
- ۲) arthroplasty
- ۳) arthrocentesis
- ۴) arthroclasia

پزشکی قطبی

۴. This is a part of physical examination in which touching body surfaces with hand lets you discover physical abnormalities.

- ۱) Palpation
- ۲) Inspection
- ۳) Auscultation
- ۴) Percussion

پزشکی قطبی

۱. Listening to body sounds with a stethoscope is .....

- ۱) Palpation
- ۲) Auscultation
- ۳) Percussion
- ۴) Inspection

پزشکی قطبی

۲. "Cystorrhaphy" is the surgical ..... Of urinary bladder.

- ۱) crushing                      ۲) repair
- ۳) incision                      ۴) removal

پزشکی قطبی

۳. The term prophylaxis means:

- ۱) prevention of disease
- ۲) generation of cell
- ۳) poisonous quality
- ۴) allergic reaction

پزشکی میان دوره کشوری - شهید بهشتی

۴. The kind of treatment which is only intended to relieve symptoms is ..... treatment

- ۱) Palliative
- ۲) Curative
- ۳) Obstructive
- ۴) Invasive

پزشکی قطبی

Answers: ۱. D / ۲. D / ۳. D / ۴. B / ۵. D / ۶. B / ۷. D / ۸. B / ۹. C / ۱۰. A / ۱۱. A ۱۲. A

اینم به متن از « پزشکی اسفند ۹۶ - قطب اهواز » که راجع به پزشکی جایگزین و مرتبط با درسه.

## Alternative Medicine

Once people wore<sup>1</sup> garlic around their necks to ward off<sup>2</sup> disease. Today, most people would scoff at the idea of wearing a necklace of garlic cloves<sup>3</sup> to enhance their well- being. However, there are individuals willing to ingest<sup>4</sup> capsules of herbal supplements in the name of health.

Complementary and alternative medicine, which includes a range of practices outside of conventional medicine such as herbs, homeopathy, massage therapy, yoga, and acupuncture<sup>5</sup>, hold increasing appeal<sup>6</sup>. In fact, according to one estimate, 42% of people over the world have used alternative therapies. In all age groups, the use of unconventional healthcare practices has steadily increased and the trend<sup>7</sup> is likely to continue.

۱- پوشیدن

۲- دفع کردن

۳- حبه

۴- خوردن

۵- طب سوزنی

۶- درخواست

۷- باب روز، مد، گرایش



Why have so many patients turned to alternative therapies? Many are frustrated<sup>8</sup> by the time constraints<sup>9</sup> of managed care and alienated<sup>10</sup> by conventional medicine's focus on technology. Others seek therapies that relieve symptoms associated with chronic disease; symptoms that mainstream<sup>11</sup> medicine cannot treat. Some alternative therapies have even crossed the line into mainstream medicine, as scientific investigation has confirmed<sup>12</sup> their safety and efficacy. For example, physicians may currently recommend acupuncture for pain management or to control the nausea associated with chemotherapy. Additionally, many medical schools teach courses in alternative therapies, and some health insurance<sup>13</sup> companies offer some alternative medicine benefits.

۸- خسته شدن

۹- محدودیت

۱۰- انتقال دادن

۱۱- راه اصلی

۱۲- تایید کردن

۱۳- بیمه

1. What is the main idea of this passage?

- 1) Alternative medicine is now a big business with more people seeking it out than ever before.
- 2) Today, it is not unusual for mainstream doctors to incorporate alternative therapies into their practice.
- 3) Over the last few decades, alternative medicine has become more popular, accepted and practiced around the universe.
- 4) People are tired of conventional medicine's focus on technology.

2. According to the passage, which practice would not be defined as alternative medicine?

- 1) pain management
- 2) acupuncture
- 3) taking herbal garlic supplements
- 4) massage therapy

3. The passage indicates that alternative treatments are increasingly being used by mainstream medical professionals because....

- 1) more and more people are demanding alternative therapies.
- 2) healthcare insurance companies are now providing some benefits for alternative medical treatments.
- 3) they are frustrated by the time constraints of managed care.
- 4) scientific studies are becoming available that prove their effectiveness and safety

Answers: 1. C / 2. A / 3. D

ناراحت شدی فصل قبل بازی نداشت؟ بیا خب اینم به بازی. باید کلمات رو بنویسی، حروف داخل دایره‌ها رو کنار هم بذاری و به جواب سوال برسی!!

1. \_ \_ \_ \_ \_
2. \_ \_ \_ \_ \_
3. \_ \_ \_ \_ \_
4. \_ \_ \_ \_ \_
5. \_ \_ \_ \_ \_
6. \_ \_ \_ \_ \_

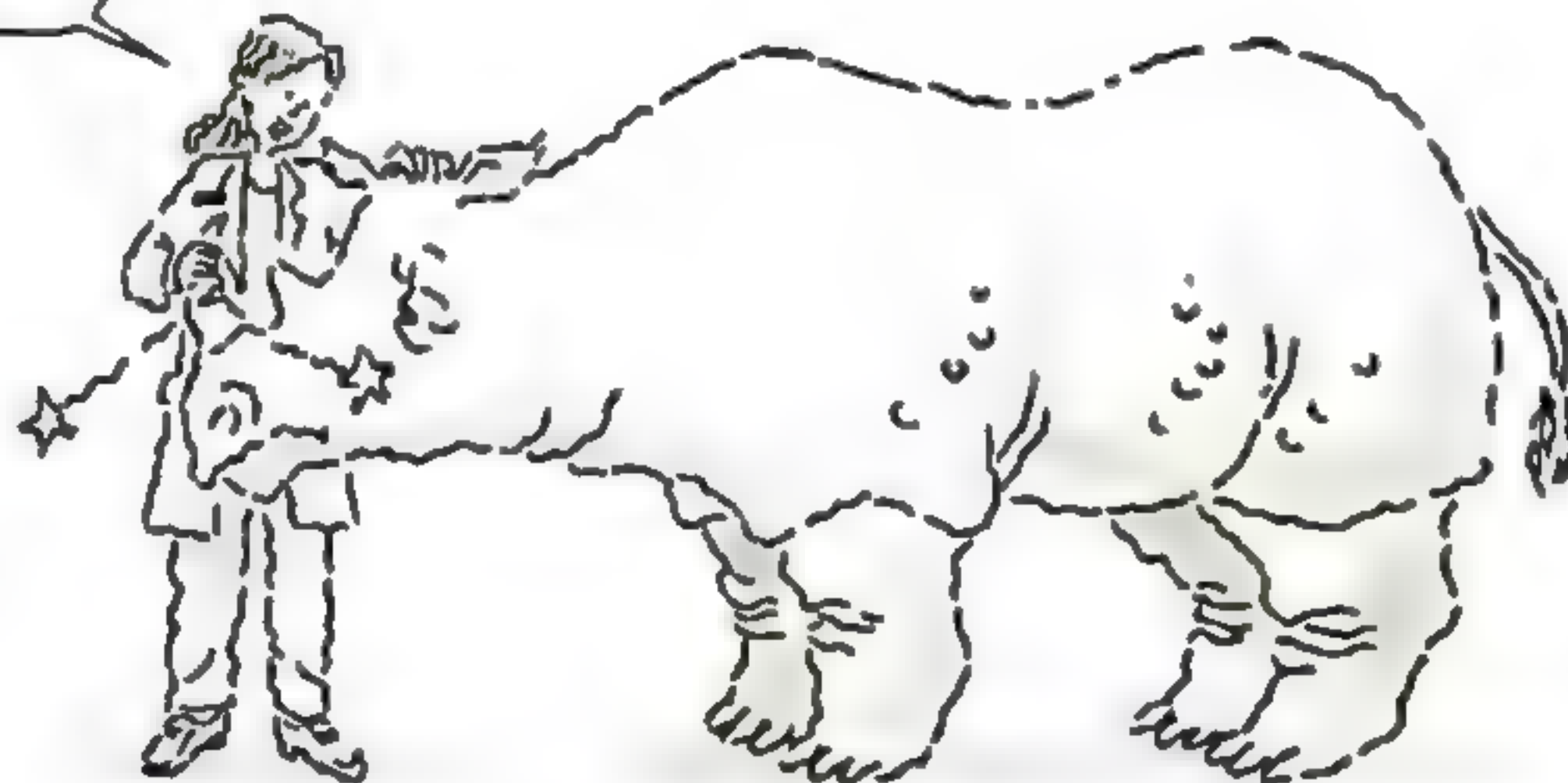
1. This root means *mental health*.
2. This root means *growth*.
3. This prefix means *backward*.
4. This prefix means *against*.
5. *Stone* is the meaning of this root.
6. If your patient has a sore throat, you may have to use this root and the suffix *-itis* to describe the condition.

پاسخ:

- 1. Psycho; 2. Trophy; 3. Retro; 4. Anti; 5. Litho;
- 6. Pharyngo

Answer to puzzle—Rhinoplasty

You look like you bumped your nose. Do you know what I think you need?



«مثل اینکه دماغت زدی به جایی. می‌دونی به نظرم چی نیاز داری؟»



این درس خیلی درس کوچیکیه ولی چون ارزش تست اومده بوده آوردمش. سریع بخونش.

## DRUGS

A drug is a substance that alters<sup>1</sup> body function. Traditionally, drugs have been derived<sup>2</sup> from natural plant, animal, and mineral sources. Today, most are manufactured synthetically<sup>3</sup> by pharmaceutical companies. A few, such as certain hormones and enzymes, have been produced by genetic engineering<sup>4</sup>.

Many drugs, described as over-the-counter<sup>5</sup> (OTC) drugs, are available without a signed<sup>6</sup> order, or prescription<sup>7</sup> (Rx). Others require a healthcare provider's prescription for use. Responsibility<sup>8</sup> for the safety and efficacy<sup>9</sup> (effectiveness) of all drugs sold in the United States lies with the Federal Food and Drug Administration (FDA), which must approve<sup>10</sup> all drugs before they are sold<sup>11</sup>.

### Adverse<sup>1</sup> Drug Effects

An unintended<sup>2</sup> effect of a drug or any other form of treatment is a side effect<sup>3</sup>. Most drugs have potential adverse side effects that must be evaluated<sup>4</sup> before they are prescribed. In addition, there may be contraindications<sup>5</sup>, or reasons not to use a particular drug for a specific individual based on the person's medical conditions, current medications, sensitivity<sup>6</sup>, or family history. While a patient is under treatment, it is important to be alert<sup>7</sup> for signs of adverse effects such as digestive upset, changes in the blood, or signs of allergy, such as hives<sup>8</sup> or skin rashes. Anaphylaxis is an immediate<sup>9</sup> and severe<sup>10</sup> allergic reaction that may be caused by a drug. It can lead to life-threatening<sup>11</sup> respiratory distress and circulatory collapse<sup>12</sup>.

Because drugs given in combination may interact<sup>1</sup>, the prescriber must know of any drugs the patient is taking before prescribing another. In some cases, a combination may result in synergy<sup>2</sup> or potentiation, meaning that the drugs together have a greater effect than either of the drugs acting alone. In other cases, one drug may act as an antagonist<sup>3</sup> of another, interfering with its action. Drugs may also react<sup>4</sup> adversely with certain foods or substances used socially<sup>5</sup>, such as alcohol and tobacco.

Drugs that act on the central nervous system may lead to psychological or physical substance dependence<sup>6</sup>, in which a person has a chronic or compulsive<sup>7</sup> need for a drug regardless<sup>8</sup> of its bad effects. With repeated use, a drug tolerance<sup>9</sup> may develop, whereby a constant dose has less effect, and the dose must be increased to produce the original response. Cessation<sup>10</sup> of the drug then leads to symptoms of substance withdrawal<sup>11</sup>, a state<sup>12</sup> that results from a drug's removal or dose reduction. Certain symptoms are associated with withdrawal from specific drugs.

### Drug Names

Drugs may be cited<sup>1</sup> by either their generic or brand names. The generic name is usually a simple version of the chemical name for the drug and is not capitalized<sup>2</sup>. The brand name (trade name<sup>3</sup>, proprietary name) is a registered trademark<sup>4</sup> of the manufacturer<sup>5</sup> and is written with an initial<sup>6</sup> capital letter. For example, Tylenol is the brand name for the analgesic<sup>7</sup> compound acetaminophen; the antidepressant Prozac is fluoxetine. A brand name is protected by a patent<sup>8</sup>; only the company that holds the patent can produce and sell that drug under its brand name until the patent expires. Note<sup>9</sup> that the same drug may be marketed by different companies under different brand names. Both Motrin and Advil, for example, are the generic anti-inflammatory agent ibuprofen.

- ۱- تغییر دادن / ۲- مشتق شدن
- ۳- صناعی / ۴- مهندسی ژنتیک
- ۵- بدون نسخه / ۶- امضا شده
- ۷- نسخه / ۸- مسئولیت
- ۹- اثر بخشی / ۱۰- تایید کردن
- ۱۱- فروختن

- ۱- بد، مضر / ۲- ناخواسته
- ۳- اثر جانبی / ۴- ارزیابی کردن
- ۵- منع مصرف / ۶- حساسیت
- ۷- آگاه بودن / ۸- کهیر / ۹- فوری
- ۱۰- شدید / ۱۱- تحدید کننده حیات
- ۱۲- سقوط

- ۱- تداخل داشتن
- ۲- تشدید اثر، هم افزایی
- ۳- مخالف
- ۴- واکنش دادن
- ۵- تفریحی / ۶- وابستگی
- ۷- اجباری
- ۸- صرف نظر از
- ۹- تحمل
- ۱۰- قطع
- ۱۱- ترک مواد
- ۱۲- وضعیت

- ۱- ذکر کردن
- ۲- با حروف بزرگ نوشتن
- ۳- نام تجاری
- ۴- برند / ۵- تولید کننده
- ۶- ابتدا / ۷- ضددرد، مسکن
- ۸- حق انحصاری، امتیاز
- ۹- توجه کنید



## ■ HERBAL MEDICINE<sup>1</sup>

۱- داروی گیاهی

For hundreds of years, people have used plants to treat diseases, a practice described as herbal medicine or **phytomedicine**. Many people in industrialized countries are now turning to herbal products as alternatives or complements to conventional medicines. Although plants are the source of many conventional drugs, pharmaceutical companies usually purify<sup>2</sup>, measure<sup>3</sup>, and often modify<sup>4</sup> or synthesize the active ingredients<sup>5</sup> in these plants rather than presenting them in their natural states.

۲- خالص کردن

۳- اندازه گیری کردن

۴- تغییر دادن

۵- مواد سازنده‌ی فعال

۶- برخوردن، رخ دادن

Some issues have arisen<sup>6</sup> with the increased use of herbal medicines and nutritional supplements, including questions about their purity, safety, concentration, and efficacy. Another issue is drug interactions. Healthcare providers should ask about the use of herbal remedies when taking a patient's drug history, and patients should report any herbal medicines they take when under treatment. The FDA does not test or verify herbal medicines, and there are no requirements to report adverse effects. There are, however, restrictions<sup>7</sup> on the health claims that can be made by the manufacturers of herbal medicines.

۷- محدودیت‌ها

خب به سری پیشوند و پسوند و ریشه کوچک هم یاد بگیریم از داروها. اول پسوندها:

Suffix	Meaning	Example	Definition of Example
-lytic (adjective of lysis)	حل کننده، کاهنده، آزاد کننده	Thrombolytic (ترومبولیتیک)	دارویی جهت حل کردن لخته خون
-mimetic	تقلید کردن تحریک کردن	Sympathomimetic (سیمپتومیمتیک)	تقلید اثرات سیستم عصبی سمپاتیک
-tropic	اثر گذاشتن روی	psychotropic (سایکوتروپیک)	اثر گذاری روی روان (psych/o)

حالا پیشوندها:

Prefix	Meaning	Example	Definition of Example
Anti-	ضد	Antiemetic (آنتی‌میتیک)	دارو جهت جلوگیری از استفراغ (emesis = استفراغ)
Contra-	ضد، مخالف	Contraceptive (کنتراسپتیو)	جلوگیری از بارداری
Counter-	ضد، مخالف	countertransport (کانترترانسپورت)	حرکت در مسیر مخالف

و همه با هم ریشه‌ها!!!!:

Root	Meaning	Example	Definition of Example
Alg/o, algi/o, algesi/o	درد	Algesia (الجزیا)	حس درد



Root	Meaning	Example	Definition of Example
Chem/o	شیمیایی	chemotherapy (کیموتراپی)	درمان با دارو
hypn/o	خواب	hypnosis (هیپنوزیس)	القای وضعیت خواب
narc/o	گیجی، نزدیک به بی‌هوشی (stupor)	narcotic (نارکوتیک)	دارو جهت القای وضعیت نزدیک به بی‌هوشی با کاهش حس
pharm pharmac/o	دارو	pharmacy (فارمسی)	علم آماده سازی و توزیع دارو یا مکانی که این فعالیت‌ها را می‌دهد (داروخانه)
pyr/o pyret/o	تب	antipyretic (آنتی‌پایرتیک)	مقابله با تب
tox/o toxic/o	سم، توکسین	toxicity (تاکسیسیتی)	وضعیت سمیت
vas/o	رگ	vasodilation (ویزودایلایشن)	متسع شدن رگ

یه به هم وصل کنید هم برو بینم که بریم سراغ تستاش.

- |                     |  |
|---------------------|--|
| ___ ۱. chronotropic | ۱. affecting timing                                      |
| ___ ۲. vasomotor    | ۲. extreme allergic reaction                             |
| ___ ۳. anaphylaxis  | ۳. effectiveness   |
| ___ ۴. efficacy     | ۴. pertaining to vessel movement                         |
| ___ ۵. narcolepsy   | ۵. Brief, uncontrollable attacks of sleep during the day |

Answer: ۱. A / ۲. D / ۳. B / ۴. C / ۵. E

تست این مبحث خیلی زیاده ولی ما فقط چندتاشو میذاریم اینجا بقیشم تو بقیه درسا یاد میگیری.

- |   |   |
|---|---|
| <p>۱. Some doctor's handwriting is so bad that their patients have difficulty reading their ..... .</p> <p>۱) jurisdictions</p> <p>۲) prescriptions</p> <p>۳) commitments</p> <p>۴) achievements</p>  | <p>۲. Tests must be carried out to ..... the therapeutic efficacy of a drug. (بزشکی شهرپور - ۹۷ قطب شمال)</p> <p>۱) Convey</p> <p>۲) Postpone</p> <p>۳) Constrict</p> <p>۴) Confirm</p>                         |
| <p>۳. 181-Addiction is a compulsive, uncontrollable dependence on a substance, habit or practice to such a degree that ..... causes severe emotional, mental or physiologic reactions.</p> <p>۱) persistence</p> <p>۲) reinstatement</p> <p>۳) transmission</p> <p>۴) cessation</p> | <p>۴. Taking which drugs may cause hypersomnia consequently endangering patient safety while operating heavy machinery?</p> <p>۱) antitussives</p> <p>۲) laxatives</p> <p>۳) hypnotics</p> <p>۴) mucolytics</p> |



۱. He usually shows ..... reactions in the form of seizures due to his allergy to peppe.

- ۱) prophylactic
- ۲) prospective
- ۳) analytic
- ۴) anaphylactic

۱  
۲  
۳  
۴

۲. Antilemetics are agents that prevent or arrest.....

- ۱) Coughing
- ۲) Belching
- ۳) Sneezing
- ۴) Vomiting

۱  
۲  
۳  
۴

۳. Use of artificial methods to prevent fertilization is termed:

- ۱) Antiception
- ۲) Interruption
- ۳) Coltus
- ۴) Contraception

۱  
۲  
۳  
۴

۴. An antipyretic is used to?

- ۱) Prevent a cold
- ۲) Aid in digestion
- ۳) Treat an infection
- ۴) Treat a fever

۱  
۲  
۳  
۴

Answers: ۱. B / ۲. D / ۳. D / ۴. C / ۵. D / ۶. D / ۷. D / ۸. D

اینم به متن از « پزشکی خرداد ۹۸ - میان دوره کشوری » که راجع به داروهای گیاهی.

A growing<sup>1</sup> number of Americans are using herbal products for preventive<sup>2</sup> and therapeutic purposes<sup>3</sup>. The manufacturers of these products are not required to submit proof of safety and efficacy to the U.S Food and Drug Administration before marketing. For this reason, the adverse effects and drug interactions associated with herbal remedies are largely unknown. Ginkgo Biloba extract, advertised as improving cognitive<sup>4</sup> functioning, has been reported to cause spontaneous<sup>5</sup> bleeding<sup>6</sup>, and it may interact with anticoagulants<sup>7</sup> and anti-platelet agents. St. John's wort<sup>8</sup> (fermented<sup>9</sup> barely liquid<sup>10</sup>), promoted as a treatment for depression<sup>11</sup>, may have monoamine oxidize- inhibiting effects or may cause increased levels of serotonin, dopamine and nor-epinephrine. Although St. John's wort probably does not interact with foods that contain tyramine, it should not be used with prescription antidepressants. Ephedrine-containing herbal products have been associated with adverse cardiovascular events, seizures<sup>12</sup> and even death.

۱- رو به افزایش

۲- پیشگیرانه

۳- اهداف درمانی / ۴- شناختی

۵- خود به خودی / ۶- خونریزی

۷- ضد انعقادی / ۸- علف چای

۹- تخمیر شده / ۱۰- نسبتا مایع

۱۱- افسردگی

۱۲- تشنج

۱. The utilization of herbal medicine in America is.....

- ۱) limited to the past
- ۲) on the rise
- ۳) alarming
- ۴) illegal

۲. Herbal medicine ..... adverse effects

- ۱) remains undetected for possible
- ۲) presents a detailed account for possible
- ۳) has greater concern for detecting
- ۴) is largely similar to chemical medicine in

۳. Prescription anti-depressants—— the promoted version of St. John's wort

- ۱) should not be separated from
- ۲) are derived from
- ۳) have applications similar to
- ۴) should not be taken with

۴. The safety regulations for herbal medicine are ..... those of chemical Medicines

- ۱) identical to
- ۲) less complicated than
- ۳) rooted in
- ۴) largely implemented by

۵. Out-of-control bleeding is associated with.....

- ۱) St. John's wort
- ۲) Ginko Biloba extract
- ۳) manufacturers' products
- ۴) Ephedrine-containing herbal products

Answers: ۱. B / ۲. B / ۳. A / ۴. B / ۵. D

نگاه کن دو صفحه و نیم درس خونده دنبال بازی هم میگردی!!!! برو فصل بعد بینممم



## دستگاه قلبی عروقی و دستگاه لنفاوی Cardiovascular & Lymphatic System

## فصل ۷ Unit 7

تو این قسمت می‌خواهیم دستگاه قلب و عروق و دستگاه لنفاوی رو از نظر ساختار و عملکرد و از نظر بالینی بررسی کنیم. متن زیر رو بخون و اگر کلمه‌ای رو نمیدونستی معنیش چی میشه از ستون سمت راست استفاده کن. یه نکته اینجا بگم که قرار نیست خط به خط ترجمه کنی!!!!. باید فقط متن و لغات و معنی‌شون رو بفهمی و باهاشون آشنا بشی. مخصوصاً اصطلاحات بولد و پررنگ شده رو خوب بخون. طراح‌ها بخوان سوال زبان اختصاصی و ازگان طرح کنن از همین مباحث سوال طرح میکنن.

❖ بررسی دستگاه قلب و عروق و دستگاه لنفاوی از نظر ساختاری و عملکردی:

### ■ INTRODUCTION

Blood circulates<sup>1</sup> throughout the body in the cardiovascular system, which consists of the heart and the blood vessels. This system forms a continuous<sup>2</sup> circuit<sup>3</sup> that delivers oxygen and nutrients<sup>4</sup> to all cells and carries away waste<sup>5</sup> products. The lymphatic system also functions in circulation. Its vessels drain<sup>6</sup> fluid and proteins left in the tissues and return them to the bloodstream<sup>7</sup>. The lymphatic system plays a part in immunity and in the digestive<sup>8</sup>.

۱- در گردش بودن / ۲- پیوسته

۳- مدار، گردش خون / ۴- مواد مغذی

۵- مواد زائد / ۶- تخلیه کردن

۷- جریان خون / ۸- گوارش

### ■ THE HEART

The heart is located<sup>1</sup> between the lungs, with its point, or apex<sup>2</sup>, directed toward the inferior and left. The wall of the heart consists<sup>3</sup> of three layers, all named with the root *cardi*, meaning "heart." Moving from the innermost<sup>4</sup> to the outermost layer, these are the:

۱- در موقعیتی قرار داشتن

۲- نوک و رأس

۳- شامل بودن

۴- درونی‌ترین

۵- اتاقک‌ها

۶- متصل کردن و مستقر کردن

۷- دهلیز

۸- بطن

۹- دیواره

۱۰- پمپ کردن

۱۱- عمومی (یا همون سیستمیک)

1. **Endocardium**—a thin membrane that lines the chambers<sup>5</sup> and valves (the prefix *endo-* means "within").

2. **Myocardium**—a thick muscle layer that makes up most of the heart wall (the root *my/o* means "muscle").

3. **Epicardium**—a thin membrane that covers the heart (the prefix *epi-* means "on"). A fibrous sac, the pericardium, contains the heart and anchors<sup>6</sup> it to surrounding structures, such as the sternum and diaphragm (the prefix *peri-* means "around"). Each of the heart's upper receiving chambers is an atrium<sup>7</sup> (plural: atria). Each of the lower pumping chambers is a ventricle<sup>8</sup> (plural: ventricles). The chambers of the heart are divided by walls, each of which is called a septum<sup>9</sup>. The interventricular septum separates the two ventricles; the interatrial septum divides the two atria. There is also a septum between the atrium and ventricle on each side.

The heart pumps<sup>10</sup> blood through two circuits. The right side pumps blood to the lungs to be oxygenated through the pulmonary circuit. The left side pumps to the remainder of the body through the systemic<sup>11</sup> circuit.

One-way<sup>1</sup> valves in the heart keep blood moving in a forward direction. The valves between the atrium and ventricle on each side are the **atrioventricular (AV) valves**. The valve between the right atrium and ventricle is the **right AV valve**, also known as the **tricuspid valve** because it has three cusps (flaps<sup>2</sup>). The valve between the left atrium and ventricle is the **left AV valve**, which is a **bicuspid valve** with two cusps; it is often called the **mitral valve**.

۱- یک طرفه

۲- دریچه، لت، چین



The valves leading into the pulmonary artery and the aorta have three cusps. Each cusp is shaped<sup>3</sup> like a half-moon, so these valves are described as *semilunar*<sup>4</sup> valves (*lunar* refers<sup>5</sup> to the moon). The valve at the entrance<sup>6</sup> to the pulmonary artery is specifically<sup>7</sup> named the **pulmonary valve**; the valve at the entrance to the aorta is the **aortic valve**.

Heart sounds are produced<sup>1</sup> as the heart functions. The loudest of these, the familiar "lub" and "dup" that can be heard through the chest wall, are produced by alternate<sup>2</sup> closings<sup>3</sup> of the valves. The first heart sound (S1) is heard when the valves between the chambers close. The second heart sound (S2) is produced when the valves leading into the aorta and pulmonary artery close. Any sound made as the heart functions normally is termed a **functional**<sup>4</sup> murmur. (The word *murmur* used alone with regard<sup>5</sup> to the heart describes an abnormal sound.)

### • The Heartbeat

Each contraction<sup>1</sup> of the heart, termed **systole** (سیستول), is followed by a relaxation<sup>2</sup> phase, **diastole** (دیاستول), during which the chambers fill<sup>3</sup>. Each time the heart beats<sup>4</sup>, both atria contract, and immediately<sup>5</sup> thereafter both ventricles contract. The number of times the heart contracts per minute is the **heart rate**. The wave<sup>6</sup> of increased<sup>7</sup> pressure<sup>8</sup> produced in the vessels each time the ventricles contract is the **pulse**<sup>9</sup>. Pulse rate is usually counted by palpating<sup>10</sup> a peripheral<sup>11</sup> artery, such as the radial artery at the wrist or the carotid artery in the neck.

Cardiac contractions are stimulated<sup>1</sup> by a built-in<sup>2</sup> system that regularly<sup>3</sup> transmits<sup>4</sup> electrical impulses<sup>5</sup> through the heart. In the sequence<sup>6</sup> of action, the components<sup>7</sup> of this conduction<sup>8</sup> system include the:

1. **Sinoatrial (SA) node**, located in the upper right atrium and called the **pacemaker**<sup>9</sup> because it sets the rate of the heartbeat.
2. **Atrioventricular (AV) node**, located at the bottom of the right atrium near the ventricle. Internodal fibers between the SA and AV nodes carry stimulation throughout both atria.
3. **AV bundle (bundle of His)** at the top of the interventricular septum.
4. **Left and right bundle branches**, which travel along the left and right sides of the septum.
5. **Purkinje** (پورکینژ) fibers, which carry stimulation throughout<sup>10</sup> the walls of the ventricles.

Although the heart itself generates<sup>11</sup> the heartbeat, factors such as nervous system stimulation, hormones, and drugs can influence the rate and the force<sup>12</sup> of contractions.

### • Electrocardiography

Electrocardiography (ECG) measures<sup>1</sup> the heart's electrical activity<sup>2</sup> as it functions. Electrodes (leads) placed on the body's surface<sup>3</sup> detect<sup>4</sup> the electrical signals, which are then amplified<sup>5</sup> and recorded as a tracing<sup>6</sup>.

- ۳- شبیه بودن به
- ۴- هلالی (نیمه ماه)
- ۵- اشاره داشتن به
- ۶- ورودی / ۷- مخصوصا، اختصاصا

- ۱- تولید شدن
- ۲- تکرار مرتب، متناوب
- ۳- بسته شدن
- ۴- عملکردی
- ۵- مربوط به، در رابطه با

- ۱- انقباض / ۲- استراحت
- ۳- پر شدن یا پر کردن / ۴- ضربان
- ۵- بلافاصله / ۶- موج / ۷- افزایش
- ۸- فشار (فشار خون) / ۹- نبض
- ۱۰- لمس کردن / ۱۱- محیطی

- ۱- تحریک شدن، برانگیختن
- ۲- داخلی
- ۳- به طور منظم
- ۴- منتقل کردن
- ۵- تکانه های الکتریکی
- ۶- توالی
- ۷- اجزاء
- ۸- هدایت
- ۹- ضربان ساز
- ۱۰- سرتاسر

- ۱۱- تولید کردن
- ۱۲- نیرو

- ۱- اندازه گرفتن / ۲- فعالیت الکتریکی
- ۳- سطح / ۴- شناسایی کردن
- ۵- تقویت شده / ۶- ترسیم، ردیابی



## ■ THE VASCULAR SYSTEM

The vascular system consists of:

1. Arteries that carry blood away from the heart
2. Arterioles, vessels smaller than arteries that lead into the capillaries
3. Capillaries, the smallest vessels, through which exchanges<sup>1</sup> take place between the blood and the tissues
4. Venules, small vessels that receive blood from the capillaries and drain into the veins
5. Veins that carry blood back to the heart

All arteries, except the pulmonary artery (and the umbilical<sup>2</sup> artery in the fetus<sup>3</sup>), carry highly oxygenated blood. They are thick-walled<sup>4</sup>, elastic vessels that carry blood under high pressure. All veins, except the pulmonary vein (and the umbilical vein in the fetus), carry blood low in oxygen. Veins have thinner, less elastic walls and tend<sup>5</sup> to give way under pressure. Like the heart, veins have one-way valves that keep blood flowing<sup>6</sup> forward. Veins are classified<sup>7</sup> as superficial<sup>8</sup> or deep<sup>9</sup>. The deep veins usually parallel<sup>10</sup> arteries and carry the same names.

Nervous system stimulation can cause the diameter<sup>11</sup> of a vessel to increase (vasodilation<sup>12</sup>) or decrease (vasoconstriction<sup>13</sup>). These changes alter<sup>14</sup> blood flow to the tissues and affect<sup>15</sup> blood pressure.

### • Blood Pressure

Blood pressure (BP) is the force exerted<sup>1</sup> by blood against the wall of a blood vessel. It falls as the blood travels away from the heart and is influenced<sup>2</sup> by a variety<sup>3</sup> of factors, including cardiac output<sup>4</sup>, vessel diameters, and total blood volume. Vasoconstriction increases BP in a vessel; vasodilation decreases pressure.

BP is commonly measured in a large artery with an inflatable<sup>5</sup> cuff technically called a sphygmomanometer. The examiner inflates the cuff to stop blood flow in a vessel. He or she then uses a stethoscope to listen for blood flow in the vessel as the pressure is slowly released. The BP reading includes both systolic pressure, measured while the heart is contracting, and diastolic pressure, measured when the heart relaxes. These are reported as systolic then diastolic separated<sup>6</sup> by a slash, such as 120/80. Pressure is expressed<sup>7</sup> as millimeters of mercury<sup>8</sup> (mm Hg), that is, the height<sup>9</sup> to which the pressure can push a column of mercury in a tube. BP is a valuable<sup>10</sup> diagnostic<sup>11</sup> measurement that is easily obtained<sup>12</sup>.

## ■ THE LYMPHATIC SYSTEM

The lymphatic system is a widely<sup>1</sup> distributed<sup>2</sup> system with multiple functions. Its role<sup>3</sup> in circulation is to return excess<sup>4</sup> fluid and proteins from the tissues to the bloodstream. Blind-ended<sup>5</sup> lymphatic capillaries pick up these materials in the tissues and carry them into larger vessels. The fluid carried in the lymphatic system is called lymph. Lymph drains from the lower part of the body and the upper left side into the thoracic duct (left lymphatic duct), which travels upward<sup>6</sup> through the chest and empties<sup>7</sup> into the left subclavian vein near the heart. The right lymphatic duct drains the body's upper right side and empties into the right subclavian vein.

۱- تبادلات

۲- نافی

۳- جنین

۴- با دیواره ضخیم

۵- تمایل داشتن به

۶- در جریان بودن

۷- طبقه بندی شدن

۸- سطحی

۹- عمقی

۱۰- موازی

۱۱- قطر

۱۲- اتساع رگ

۱۳- تنگ شدن رگ

۱۴- تغییر دادن

۱۵- اثر گذاشتن

۱- اعمال شده

۲- تحت تاثیر بودن از

۳- متنوع

۴- خروجی، برون‌ده

۵- دارای قابلیت باد کردن

۶- جدا شدن توسط

۷- بیان کردن

۸- جیوه / ارتفاع

۱۰- ارزشمند

۱۱- تشخیصی

۱۲- به دست آوردن

۱- گسترده

۲- توزیع شده

۳- نقش

۴- اضافی

۵- بن‌بست

۶- به سمت بالا

۷- تخلیه شدن



Another major function of the lymphatic system is to protect the body from impurities<sup>1</sup> and invading<sup>2</sup> microorganisms. Along<sup>3</sup> the path of the lymphatic vessels are small masses<sup>4</sup> of lymphoid tissue, the **lymph nodes**. Their function is to filter the lymph as it passes through. They are concentrated<sup>5</sup> in the cervical (neck), axillary (armpit<sup>6</sup>), mediastinal (chest), and inguinal (groin<sup>7</sup>) regions. Other protective organs and tissues of the lymphatic system include the following:

- **Tonsils<sup>8</sup>**, located in the throat (pharynx<sup>9</sup>). They filter inhaled<sup>10</sup> or swallowed<sup>11</sup> materials and aid in immunity early in life.
- **Thymus**, in the chest, above the heart. It processes<sup>12</sup> and stimulates lymphocytes active in immunity.
- **Spleen**, in the upper left region of the abdomen. It filters blood and destroys<sup>13</sup> old red blood cells.
- **Appendix**, attached<sup>14</sup> to the large intestine. It may aid in the development<sup>15</sup> of immunity.
- **Peyer patches**, in the lining<sup>16</sup> of the intestine. They help protect against invading microorganisms.

A final function of the lymphatic system is to absorb<sup>17</sup> digested fats from the small intestine. These fats are then added to the blood with the lymph that drains from the thoracic duct.

۱- ناخالصی‌ها

۲- مهاجم

۳- در طی

۴- توده‌ها

۵- تغلیظ شدن

۶- زیربغل

۷- کشاله ران

۸- لوزه

۹- حلق

۱۰- استنشاق شده

۱۱- بلعیده شده / ۱۲- پردازش کردن

۱۳- نابود کردن

۱۴- متصل به

۱۵- تکوین و تشکیل

۱۶- پوشش

۱۷- جذب

خب حالا که متن درس رو خوندی، چند تا ریشه و پسوند مرتبط با همین درس یاد بگیریم. برات معنی هر بخش رو نوشتم و یه مثال با معنیش رو هم نوشتم. حتی نحوه خوندنشون رو هم واست نوشتم که دیگه حتی تلفظشون رو هم خوب یاد بگیری. اینایی که این زیر می‌بینی ریشه‌های مربوط به قلب هستن:

Root	Meaning	Example	Definition of Example
cardi/o	heart (قلب)	cardiomyopathy (کاردیومیوپاتی)	هر بیماری مربوط به عضله قلب
atri/o	atrium (دهلیز)	atriotomy (ایتریوتومی)	برش جراحی در دهلیز
ventricul/o	cavity, ventricle (بطن، حفره)	supraventricular (سوپراونتریکولار)	بالای بطن
valv/o, valvul/o	valve (دریچه)	valvulotome (والولوتوم)	ابزار برش دریچه

این یکبار ریشه‌های مربوط به عروق هستن:

Root	Meaning	Example	Definition of Example
angi/o	vessel (رگ)	angiography (آنژیوگرافی)	تصویر رادیوگرافی از رگ
vas/o, vascul/o	vessel, duct (رگ، مجرا)	vasospasm (ویزواسپاسم)	انقباض ناگهانی رگ



Root	Meaning	Example	Definition of Example
arter/o, arteri/o	artery (شریان)	endarterial (اندارتریال)	درون یک شریان
arteriol/o	arteriol (شریانچه)	arteriolar (آرتریولار)	مربوط به شریانچه
aort/o	aorta (آئورت)	aortoptosis (آئورتوپتوزیس)	جابجایی آئورت به سمت پایین
ven/o, ven/i	vein (ورید)	venous (وینس)	مربوط به ورید
phleb/o	vein (ورید)	phlebotomy (فلبوتومی)	ایجاد برش در یک ورید جهت خروج خون

و ریشه‌های زیر هم مربوط به دستگاه لنفاوی هستند:

Root	Meaning	Example	Definition of Example
lymph/o	lymph, lymphatic system (لنف، سیستم لنفاوی)	lymphoid (لیمفوئید)	شبیه لنف یا بافت لنفاوی
lymphaden/o	lymph node (گره لنفاوی)	lymphadenitis (لیمفادنایتیس)	التهاب گره لنفاوی
lymphangi/o	lymphatic vessel (رگ لنفاوی)	lymphangiogram (لیمفانژیوگرام)	تصویر رادیوگرافی از عروق لنفاوی
splen/o	spleen (طحال)	splenalgia (اسپلناژیا)	درد در طحال
thym/o	thymus (تیموس)	athymia (آتیمیا)	فقدان تیموس
tonsil/o	tonsil (لوزه)	tonsillar (تانسیلار)	مربوط به لوزه

حالا به سری جمله می‌نویسم و تو با همین ریشه‌ها و پسوندهایی که یادگرفتی واسشون کلمه بساز! ببینم چقدر یاد گرفتی!!!!

۱. Enlargement (-megaly) of heart
۲. Inflammation of the fibrous sac around the heart
۳. Originating (-genic) in the heart
۴. Vasodilation means dilation of a \_\_\_\_\_
۵. Endarterectomy is removal of the inner lining of \_\_\_\_
۶. Radiograph (-gram) of aorta

۱. Plastic repair (-plasty) of a vessel
۲. Within (intra-) a vein
۳. Enlargement of spleen
۴. Any disease (-pathy) of the lymph node
۵. A tumor (-oma) of lymphatic tissue
۶. Lymphangioma is a tumor of \_\_\_\_\_

Answer: ۱. Cardiomegaly / ۲. Pericarditis / ۳. Cardiogenic / ۴. Vessel / ۵. Artery / ۶. Aortography / ۱. Angioplasty  
۲. Intravenous / ۳. Splenomegaly / ۴. Lymphadenopathy / ۵. Lymphoma / ۶. Lymphatic vessel



خب به صحیح (T) و غلط (F) شیک و مجلسی هم بریم ببینیم چقدر از متن رو یاد گرفتی:

- |  |   |
|--|---|
| ___ ۱. The left AV valve is the aortic valve               | ___ ۱. The systemic circuit pumps blood to the lungs                      |
| ___ ۲. The pulmonary vein carries blood to the lungs       | ___ ۱. An artery is a vessel that carries blood back to the heart         |
| ___ ۳. The brachial artery supplies blood to the leg       | ___ ۳. Peyer patches are in the intestine                                 |
| ___ ۴. Diastole is the relaxation phase of the heart cycle | ___ ۱. Bradycardia is a lower-than-average heart rate                     |
| ___ ۵. The left ventricle pumps blood into the aorta       | ___ ۱. Blood returning from the lungs to the heart enters the left atrium |

Answer: ۱. F / ۲. F / ۳. F / ۴. T / ۵. T / ۱. F / ۲. F / ۳. T / ۴. T / ۱. T

الان با خودت میگی این چرت و پرتا رو که با اطلاعات عمومی هم میتونستم بزنم... اره میدونم D: هدف صرفا تقویت قدرت درک تو از جملات انگلیسی هست که بتونی داده‌ها جدید (لغات انگلیسی) رو تو ذهنت به داده‌های قبلیت (درکت از آناتومی و فیزیولوژی مثلا) متصل کنی که بهتر زبان رو یاد بگیری.

حالا خیلی حرفه‌ای آماده‌ای که سوالات جون‌دار و قشنگ علوم پایه‌های اخیر رو جواب بدی!!! (باورت میشه؟)

- |  |  |
|--|--|
| ۱. The backward flow of blood through a defective heart valve is technically termed..... | ۳. "Phlebotomy" refers to incision of a(n) ..... |
| ۱) Regression  | ۱) Vein  |
| ۲) Regurgitation   | ۲) Vessel  |
| ۳) Rehabilitation  | ۳) Artery  |
| ۴) Resuscitation   | ۴) Capillary                                     |
- Resusci- / rehabilitation: توان بخشی / (عود کردن / regression: احیا)

- |  |  |
|--|--|
| ۴. The displacement of the heart to the left is known as ..... | ۴. "Epicardium" means .....                          |
| ۱) dextrocardia  | ۱) The thin outmost layer of the heart wall          |
| ۲) bradycardia   | ۲) The fibrous sac that surrounds the heart          |
| ۳) tachycardia   | ۳) The relaxation phase of the heartbeat cycle       |
| ۴) sinistocardia   | ۴) The valve at the entrance to the pulmonary artery |

- |  |   |
|--|---|
| ۵. Cardiomyoliposis is.....                    | ۵. "A record or tracing of the electrical impulses of the heart" means: |
| ۱) fatty degeneration of the heart muscles     | ۱) Electrocardiograph   |
| ۲) downward displacement of the heart          | ۲) Electrocardiography  |
| ۳) restrained movement of the heart due to fat | ۳) Electrocardiogram  |
| ۴) fibrous induration of the heart muscle      | ۴) Electrocardiopathy   |
- (Restrained: مهار شدن)

Answers: ۱. B / ۲. A / ۳. D / ۴. A / ۵. A / ۳. C



## ◆ بررسی دستگاه قلب و عروق و دستگاه لنفاوی از نظر بالینی:

### • Atherosclerosis

The accumulation<sup>1</sup> of fatty deposits<sup>2</sup> within the lining of an artery is termed **atherosclerosis**<sup>3</sup> (اترواسکلروزیس). This type of deposit, called **plaque** (پلاک), begins to form when a vessel receives tiny<sup>4</sup> injuries, usually at a point of branching<sup>5</sup>. Plaques gradually<sup>6</sup> thicken and harden with fibrous material, cells, and other deposits, restricting<sup>7</sup> the vessel's lumen (opening) and reducing blood flow to the tissues, a condition known as **ischemia** (ایسکمیا). A major risk factor for the development of atherosclerosis is **dyslipidemia**, abnormally high levels or imbalance in **lipoproteins** that are carried in the blood, especially high levels of cholesterol-containing, low-density lipoproteins (LDLs). Other risk factors for atherosclerosis include smoking, high blood pressure, poor diet, inactivity, stress, and a family history of the disorder. Atherosclerosis may involve<sup>8</sup> any arteries, but most of its effects are seen in the coronary vessels of the heart, the aorta, the carotid arteries in the neck, and vessels in the brain. Atherosclerosis is the most common form of a more general<sup>9</sup> condition known as **arteriosclerosis** (آرترواسکلروزیس) in which vessel walls harden from any cause. In addition to plaque, calcium salts and scar tissue may contribute<sup>10</sup> to arterial wall thickening, with a narrowing<sup>11</sup> of the lumen and loss of elasticity.

### • Thrombosis and Embolism

Atherosclerosis predisposes<sup>1</sup> a person to **thrombosis**, the formation of a blood clot within a vessel. The clot, called a **thrombus**, interrupts<sup>2</sup> blood flow to the tissues supplied<sup>3</sup> by that vessel, resulting in **necrosis** (tissue death). Blockage<sup>4</sup> of a vessel by a thrombus or other mass carried in the bloodstream is **embolism**, and the mass itself is called an **embolus**. Usually, the mass is a blood clot that breaks loose<sup>5</sup> from a vessel's wall, but it may also be air (as from injection or trauma), fat (as from marrow released after a bone break), bacteria, or other solid materials. Often a venous thrombus will travel through the heart and then lodge<sup>6</sup> in an artery of the lungs, resulting in a life-threatening<sup>7</sup> pulmonary embolism. An embolus from a carotid artery often blocks a cerebral vessel, causing a **cerebrovascular accident (CVA)**, commonly called **stroke**.

### • Aneurysm

An arterial wall weakened by atherosclerosis, malformation, injury, or other changes may balloon out<sup>1</sup>, forming an **aneurysm**. If an aneurysm ruptures<sup>2</sup>, hemorrhage results. Rupture of a cerebral artery is another cause of stroke. The abdominal aorta and carotid arteries are also common aneurysm sites. In a **dissecting aneurysm**, blood hemorrhages into the arterial wall's thick middle layer, separating the muscle as it spreads and sometimes rupturing the vessel.

### • Hypertension

High blood pressure, or **hypertension (HTN)** in simple terms, is defined as a systolic pressure greater than 140 mm Hg or a diastolic pressure greater than 90 mm Hg. HTN causes the left ventricle to enlarge<sup>3</sup> (hypertrophy) as a result of increased work. Some cases of HTN are secondary to other disorders, such as kidney malfunction<sup>4</sup> or endocrine disturbance<sup>5</sup>, but most of the time, the causes are unknown<sup>6</sup>, a condition described as **primary, or essential, HTN**.

۱- تجمع

۲- رسوبات، ذخایر

۳- تصلب شرائین

۴- کوچک و ریز

۵- اشعاب

۶- تدریجاً

۷- محدود کردن

۸- درگیر کردن

۹- کلی‌تر

۱۰- مشارکت کردن

۱۱- تنگی

۱- مستعد کردن

۲- مختل کردن، قطع کردن

۳- عرضه، تأمین

۴- انسداد

۵- آزاد شدن

۶- مستقر شدن

۷- تهدید کننده حیات

۱- بیرون زدن

۲- پاره شدن

۳- بزرگ شدن

۴- اختلال عملکرد

۵- اختلال

۶- ناشناخته



Hypertension is generally a silent<sup>7</sup> condition (asymptomatic<sup>8</sup>). Many people won't experience<sup>9</sup> any symptoms. It may take years for the condition to reach levels severe enough that symptoms become obvious<sup>10</sup>. But even without symptoms it can damage tissues.

## ■ HEART DISEASE

### • Coronary Artery Disease

Coronary artery disease (CAD) results from atherosclerosis in the vessels that supply blood to the heart muscle. It is a leading<sup>1</sup> cause of death in industrialized countries. An early<sup>2</sup> sign of CAD is the type of chest pain known as **angina pectoris**<sup>3</sup>. This is a feeling of constriction around the heart or pain that may radiate<sup>4</sup> to the left arm or shoulder, usually brought<sup>5</sup> on by exertion<sup>6</sup>. Often there is anxiety<sup>7</sup>, diaphoresis (profuse<sup>8</sup> sweating<sup>9</sup>), and **dyspnea**<sup>10</sup> (difficulty in breathing). CAD is diagnosed by ECG, stress tests, echocardiography, and coronary angiography. Coronary CT angiography (CTA) is a noninvasive<sup>11</sup> procedure that can be used in the diagnosis of heart disease. It employs computed tomography scans following injection of a small amount of dye<sup>12</sup> into the arm. Researchers have also found that a substance called **C-reactive protein** (CRP) is associated<sup>13</sup> with poor cardiovascular health. This protein is produced during systemic inflammation, which may contribute<sup>14</sup> to atherosclerosis. CRP levels can indicate<sup>15</sup> cardiovascular disease and predict its outcome<sup>16</sup> (prognosis<sup>17</sup>).

### • Myocardial Infarction

Degenerative changes in the arteries predispose a person to thrombosis and sudden coronary artery occlusion (obstruction<sup>1</sup>). The resultant<sup>2</sup> area of myocardial necrosis is termed an infarct, and the process is known as **myocardial infarction** (MI), the "heart attack"<sup>3</sup> that may cause sudden death. Symptoms of MI include pain over the heart (precordial pain) or upper part of the abdomen (epigastric pain) that may extend to the jaw<sup>4</sup> or arms, pallor<sup>5</sup> (paleness), diaphoresis, nausea<sup>6</sup>, fatigue<sup>7</sup>, anxiety, and dyspnea. There may be a burning<sup>8</sup> sensation<sup>9</sup> similar to indigestion<sup>10</sup> or heartburn<sup>11</sup>. In women, because degenerative changes more commonly affect multiple small vessels rather than the major coronary pathways, MI symptoms are often more long-term and are more subtle<sup>12</sup> and diffuse than the intense chest pain that is more typical in men. MI is diagnosed by ECG and assays for specific substances in the blood. Creatine kinase (CK) is an enzyme normal to muscle cells. It is released in increased amounts when muscle tissue is injured. The form of CK specific to cardiac muscle cells is **creatine kinase MB** (CK-MB). Troponin (Tn) is a protein that regulates<sup>13</sup> contraction in muscle cells.

### • Arrhythmia

Arrhythmia is any irregularity<sup>1</sup> of heart rhythm, such as an altered heart rate, extra beats, or a change in the pattern<sup>2</sup> of the beat. Bradycardia is a slower-than-average<sup>3</sup> rate, and tachycardia is a higher-than-average rate.

Damage to cardiac tissue, as by MI, may result in **heart block**, an interruption in the heart's electrical conduction system resulting in arrhythmia. Heart block is classified in order of increasing severity<sup>4</sup> as first-, second-, or third-degree heart block. Block in a bundle branch is designated<sup>5</sup> as a left or right bundle branch block (BBB).

If, for any reason, the SA node is not generating a normal heartbeat or there is heart block, an artificial pacemaker may be implanted<sup>6</sup> to regulate the beat. Usually, the pacemaker is inserted under the skin below the clavicle, and leads are threaded<sup>7</sup> through veins into one or both of the right chambers.

۷- خاموش و ساکت

۸- بی علامت

۹- تجربه کردن / ۱۰- آشکار

۱- اصلی، پیش‌تاز / ۲- زود هنگام

۳- درد قفسه سینه / ۴- انتشار یافتن

۵- ایجاد شدن / ۶- فعالیت

۷- اضطراب

۸- فراوان

۹- تعریق / ۱۰- تنگی نفس

۱۱- غیرتهاجمی / ۱۲- رنگ

۱۳- مرتبط با / ۱۴- مشارکت کردن

۱۵- نشان دادن / ۱۶- نتیجه

۱۷- پیش‌آگهی

۱- انسداد / ۲- حاصل، نتیجه

۳- حمله قلبی

۴- فک

۵- رنگ پریدگی / ۶- تهوع

۷- خستگی / ۸- سوزشی، سوزان

۹- احساس

۱۰- سوء هاضمه

۱۱- سوزش سر دل

۱۲- نامحسوس

۱۳- تنظیم کردن

۱- نامنظمی

۲- الگو

۳- آهسته‌تر از نرمال (میانگین)

۴- شدت

۵- معین شدن، تخصیص یافتن

۶- کاشتن

۷- عبور کردن



Some pacemakers act only when the heart is not functioning on its own, and others adjust<sup>8</sup> to the need for a change in heart rate based on activity. MI is also a common cause of fibrillation, an extremely rapid, spontaneous<sup>9</sup>, quivering<sup>10</sup> and ineffective<sup>11</sup> heartbeat, especially dangerous when it affects the ventricles.

### • Heart Failure

The general term heart failure refers to any condition in which the heart fails to empty effectively. The resulting increased pressure in the venous system leads to edema, justifying the description *congestive<sup>1</sup> heart failure* (CHF). Left-side failure results in pulmonary edema with breathing difficulties (dyspnea<sup>2</sup>); right-side failure causes peripheral edema with tissue swelling<sup>3</sup>, especially in the legs, along with weight gain from fluid retention<sup>4</sup>. Other symptoms of CHF are cyanosis and syncope (fainting<sup>5</sup>). Heart failure is treated with rest, drugs to strengthen<sup>6</sup> heart contractions, diuretics to eliminate fluid, and restriction of salt in the diet.

Heart failure<sup>7</sup> is one cause of shock, a severe disturbance in the circulatory system resulting in inadequate<sup>8</sup> blood delivery to the tissues. Shock is classified according to cause as:

- Cardiogenic shock, caused by heart failure
- Hypovolemic shock, caused by loss of blood volume
- Septic shock, caused by bacterial infection
- Anaphylactic shock, caused by severe allergic reaction

### • Congenital Heart Disease

A congenital<sup>1</sup> defect<sup>2</sup> is any defect that is present at birth. The most common type of congenital heart defect is a septal defect, a hole<sup>3</sup> in the septum (wall) that separates the atria or the septum that separates the ventricles. An atrial septal defect often results from persistence<sup>4</sup> of an opening, the foramen ovale, that allows blood to bypass<sup>5</sup> the lungs in fetal circulation. A septal defect permits<sup>6</sup> blood to shunt from the left to the right side of the heart and return to the lungs instead of flowing out to the body. The heart has to work harder to meet the tissue's oxygen needs. Symptoms of septal defect include cyanosis (leading to the description "blue baby"), syncope, and clubbing of the fingers.

### • Rheumatic Heart Disease

In rheumatic heart disease, infection with a specific type of *Streptococcus* sets up an immune reaction that ultimately<sup>1</sup> damages the heart valves. The infection usually begins as a "strep throat", and most often the mitral valve is involved. Scar tissue fuses the valve's leaflets<sup>2</sup>, causing a narrowing or stenosis<sup>3</sup> that interferes<sup>4</sup> with proper function.

People with rheumatic heart disease are subject to repeated valvular infections and may need to take antibiotics prophylactically (preventively<sup>5</sup>) before invasive medical or dental procedures. Severe cases of rheumatic heart disease may require surgical correction or even valve replacement. The incidence<sup>6</sup> of rheumatic heart disease has declined<sup>7</sup> with the use of antibiotics.

۸- تنظیم شدن

۹- خود به خود / ۱۰- لرزیدن

۱۱- ناموثر

۱- احتقانی

۲- تنگی نفس

۳- تورم

۴- احتباس، نگه داشتن

۵- غش کردن

۶- قوی کردن

۷- نارسایی قلبی

۸- ناکافی

۱- مادرزادی

۲- نقص

۳- سوراخ

۴- باقی ماندن

۵- گذر کردن، عبور کردن

۶- اجازه دادن

۱- در نهایت

۲- لت

۳- تنگی

۴- مداخله کردن

۵- جهت جلوگیری

۶- بروز

۷- کاهش یافتن



## ■ DISORDERS OF THE VEINS

A breakdown<sup>1</sup> in the valves of the veins in combination with a chronic dilatation of these vessels results in **varicose veins**. These appear twisted<sup>2</sup> and swollen under the skin, most commonly in the legs. Contributing factors include heredity, obesity, prolonged<sup>3</sup> standing, and pregnancy, which increase pressure in the pelvic veins. Varicosities can impede<sup>4</sup> blood flow and lead to edema, thrombosis, hemorrhage, or ulceration. A varicose vein in the rectum or anal canal is referred to as a **hemorrhoid**. **Phlebitis** is any inflammation of the veins and may be caused by infection, injury, poor circulation, or damage to valves in the veins. Such inflammation typically initiates<sup>1</sup> blood clot formation, resulting in **thrombophlebitis**. Any veins are subject to<sup>2</sup> thrombophlebitis, but the more serious condition involves the deep veins as opposed<sup>3</sup> to the superficial veins, in the condition termed **deep vein thrombosis (DVT)**. The most common sites for DVT are the deep leg veins, causing serious reduction in venous drainage<sup>4</sup> from these areas.

۱- تجزیه

۲- پیچ خورده

۳- طولانی

۴- مانع شدن

۱- شروع شدن

۲- مستعد بودن

۳- در مقابل

۴- تخلیه وریدی

## ■ DISORDERS OF THE LYMPHATIC SYSTEM

Changes in the lymphatic system are often related to infection and may consist of inflammation and enlargement of the nodes, called **lymphadenitis**, or inflammation of the vessels, called **lymphangitis**. Obstruction of lymphatic vessels because of surgical excision<sup>1</sup> or infection results in tissue swelling, or **lymphedema**. Any neoplastic disease involving lymph nodes is termed **lymphoma**. These neoplastic disorders affect the white blood cells found in the lymphatic system.

۱- برش جراحی

حالا که کلی لغت یاد گرفتیم به دوره کلی هم بکنیم از چیزایی که تو این درس یاد گرفتیم و بعد هم تست و سپس بازی!!

- |                      |  |
|----------------------|--|
| ___ ۱. Thrombosis    | ۱. Inflammation of heart muscle          |
| ___ ۲. Myocarditis   | ۲. Lower, pointed region of the heart    |
| ___ ۳. Regurgitation | ۳. Local deficiency of blood             |
| ___ ۴. ischemia      | ۴. backward flow                         |
| ___ ۵. Apex          | ۵. Formation of a blood clot in a vessel |
| ___ ۶. Aortoptosis   | ۶. Downward displacement of aorta        |

Answer: ۱. E / ۲. A / ۳. D / ۴. C / ۵. B / ۶. F

اینم باز به سری تست از همین مبحث! میخوام بهت ارزش این متن ها رو نشون بدم!

۱. Spontaneous quivering and ineffectual contraction of muscle fibers, as in the atria or ventricles, is referred to as .....

- ۱) tachycardia  
۲) infarction  
۳) diaphoresis  
۴) fibrillation

پزشکی قلبی - شهر نور

۲. The prefix "brady" in the term "bradycardia" means.....

- ۱) away from  
۲) downward  
۳) irregular  
۴) slow

پزشکی قلبی - شهر نور



۳. Part of the problem among all population is ..... nature of hypertension for the first 10 to 20 years, while it is provoking cardiac and vascular damage.

- ۱) Diagnostic
- ۲) Hypertensive
- ۳) Malignant
- ۴) Asymptomatic

(Diagnostic: تشخیصی / Hypertensive: پرفشار / Malignant: بدخیم)

۴. When the caliber of a vessel is narrowed, the condition is called .....

- ۱) angiostenosis
- ۲) angiosclerosis
- ۳) angiopoiesis
- ۴) angioparesis

۵. Syncope is a well-recognized prognostic sign in aortic ....., which is considered as the obstruction to the outflow from the left ventricle into the aorta.

- ۱) stenosis
- ۲) prognosis
- ۳) occlusion
- ۴) stent

۶. The accumulation of fatty deposits, usually as a result of dyslipidemia, resulting in restricting the vessel's lumen is called .....

- ۱) stenosis
- ۲) atherosclerosis
- ۳) plaque
- ۴) arteriosclerosis

۷. Development of a blood clot within a vessel is called .....

- ۱) endartery
- ۲) embolism
- ۳) angiogenesis
- ۴) thrombosis

۸. The patient claimed that her heart races and she cannot catch her breath, The terms for these conditions are, respectively .....

- ۱) Dyspnea and tachycardia
- ۲) Tachycardia and bradypnea
- ۳) Tachypnea and dyspnea
- ۴) Tachycardia and dyspnea

۹. Extreme high air temperatures can directly ..... Deaths from cardiovascular and respiratory disease, particularly among elderly people.

- ۱) rule out
- ۲) contribute to
- ۳) compensate for
- ۴) turn down

(rule out: رد کردن / compensate: جبران کردن / turn down: خرد کردن)

۱۰. A(n) ..... is a bulge in a weakened arterial wall that can rupture and cause damage.

- ۱) psoriasis
- ۲) aneurysm
- ۳) epileptiform
- ۴) adenoma

۱۱. The accumulation of fatty ..... within the lining of an artery is termed atherosclerosis.

- ۱) Deposits
- ۲) Platelets
- ۳) Secretions
- ۴) Humors

۱۲. .... is the inflammation and enlargement of a lymph node, usually as a result of infection.

- ۱) lymphangitis
- ۲) lymphadenitis
- ۳) lymphedema
- ۴) Lymphoma



خب خب خب می بینم که به خودت می بالی که این فصلو هم تموم کردی. برو متن « پزشکی ریفرم و کلاسیک شهر یور ۹۸ - قطب اهواز » رو که به این مبحث مربوط میشه رو بزنی بینم چند مرده حلاجی!!!

Fluid balance<sup>1</sup> in the body requires<sup>2</sup> appropriate<sup>3</sup> distribution of fluid among the cardiovascular system, lymphatic system, and the tissues. Edema occurs<sup>4</sup> when the balance is tipped toward<sup>5</sup> excess fluid in the tissues. Often, edema is due to heart failure. However, blockage of lymphatic vessels (with resulting fluid accumulation in the tissues) can cause another form of edema, called lymphedema. The clinical hallmark<sup>6</sup> of lymphedema is chronic swelling of an arm or leg, whereas heart failure usually causes swelling of both legs.

Lymphedema may be either primary or secondary. Primary<sup>7</sup> lymphedema is a rare<sup>8</sup> congenital condition caused by abnormal development of lymphatic vessels. Secondary<sup>9</sup> lymphedema, or acquired lymphedema, can develop as a result of trauma to limb, surgery, radiation therapy, Or infection of the lymphatic vessels (lymphangitis). One of the most common causes of lymphedema is the removal of axillary lymph nodes during mastectomy, which disrupts lymph flow from the adjacent<sup>10</sup> arm. Lymphedema may also occur following<sup>11</sup> prostate surgery.

Therapies<sup>12</sup> that encourage<sup>13</sup> the flow of fluid through the lymphatic vessels are useful in treating lymphedema. These therapies may include elevation<sup>14</sup> of the affected limb, manual<sup>15</sup> lymphatic drainage through massage, light<sup>16</sup> exercise, and firm<sup>17</sup> wrapping<sup>18</sup> of the limb to apply compression. In addition, changes in daily habits can lessen the effects of lymphedema. For example, further blockage of lymph drainage can be prevented by wearing loose clothing and jewelry, carrying a purse or handbag on the unaffected arm, and not crossing the legs when sitting. Lymphangitis requires the use of appropriate antibiotics. Prompt<sup>19</sup> treatment is necessary because in addition to swelling, other complications include poor wound healing, skin ulcers, and increased risk of infection.

- ۱- تعادل / ۲- نیاز داشتن
- ۳- مناسب
- ۴- رخ دادن
- ۵- تعادل به سمتی
- ۶- شاه علامت
- ۷- اولیه
- ۸- نادر
- ۹- ثانویه
- ۱۰- مجاور
- ۱۱- به دنبال
- ۱۲- درمان ها
- ۱۳- تقویت کردن
- ۱۴- بالا کردن
- ۱۵- دستی
- ۱۶- سبک
- ۱۷- محکم
- ۱۸- بستن
- ۱۹- سریع

۱. Which phrase is more closely related to "tipped toward" underlined in the second paragraph?

- ۱) alleviated by      ۲) predisposed to      ۳) withdrawn from      ۴) preserved for
- (alleviated by: رفع شدن توسط / predisposed to: مستعد شدن به)  
(withdrawn from: گرفته شدن یا دور شدن از / preserved for: حفظ شدن برای)

۲. The author implies that .....

- ۱) Lymphedema impacts can be minimized through some modifications in daily routines.
- ۲) more emergent care is needed if body fluid is improperly distributed across lymphatic rather than cardiovascular system
- ۳) antibiotics are recommended to cease the hereditary malformation of the lymphatic system.
- ۴) surgery is the first line of treatment to reduce swelling and encourage the flow of lymph fluid.

Answers: ۱. B / ۲. A

فکر کردی به یه متن دو سواله بسنده میکنم؟؟ ☺. یکی دیگه هم بزنی این یکی از « پزشکی ریفرم شهر یور ۹۸ - مشترک کشوری »:

The fitness world is full of gadgets<sup>1</sup>. Some are helpful, but many are more trouble<sup>2</sup> than they are worth<sup>3</sup>. Regardless<sup>4</sup> of what shape you are in, one device you might find useful is a heart rate monitor.

The key to cardiovascular fitness is getting a good but safe aerobic workout<sup>5</sup>. Heart rate monitors, which monitor your heart rate while you exercise, can help you do that with ease<sup>6</sup>. They range from relatively simple devices that show at a glance<sup>7</sup> how many times per minute your heart is beating, to devices that record information like how long you were exercising at your target heart rate.

- ۱- ابزارها
- ۲- مشکل زا
- ۳- ارزش داشتن / ۴- صرف نظر از
- ۵- ورزش
- ۶- راحتی
- ۷- نگاه



Here is a simple way to determine your maximum and target heart rates: subtract<sup>۶</sup> your age from 220 to figure out your maximum heart rate. For example, if you are 35, your maximum heart rate is 185 beats per minute. Your target heart rate is 50% to 85% of that number, or 93 beats to 157 beats per minute. These numbers are based on a healthy adult.

۸- کم کردن (تفریق)

۱. The text ..... fitness gadgets

- ۱) challenges the benefits of any
- ۲) rejects any troubles caused by
- ۳) recommends the use of any
- ۴) approves the use of certain

۲. The maximum heart rate for a person who is 50 years old is ..... beats per minutes.

- ۱) 180
- ۲) 170
- ۳) 157
- ۴) 165

۳. The heart rate monitor is referred to as a .....

- ۱) helpful gadget
- ۲) fitness exercise
- ۳) trouble gadget
- ۴) outdated gadget

۴. Heart rate monitors that are used to check heart rate are .....

- ۱) of various types
- ۲) to check the heart just at a glance
- ۳) few simple devices
- ۴) to show the duration of exercise

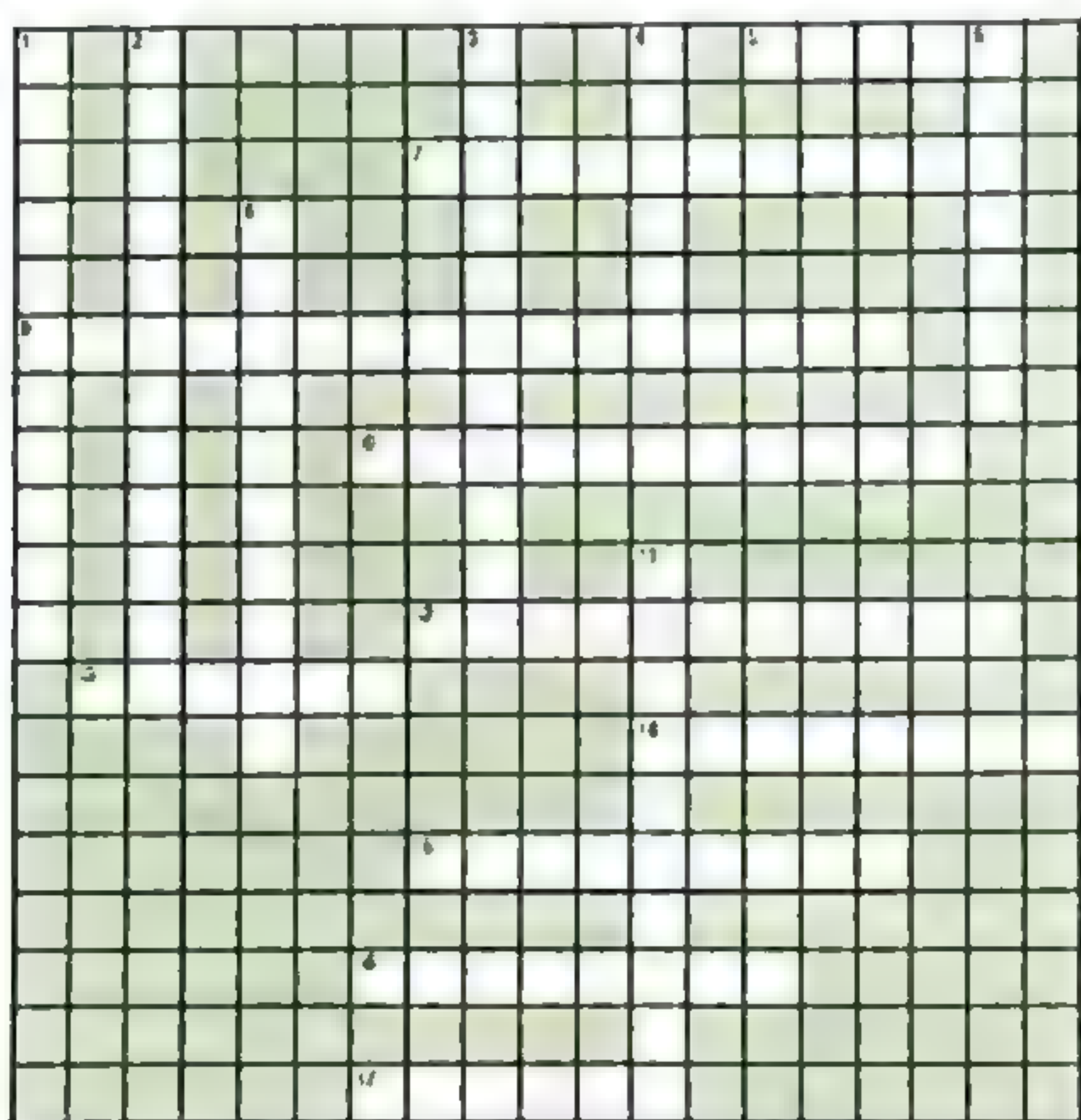
۵. The underlined word "that" refers to .....

- ۱) a heart rate monitor
- ۲) the key to cardiovascular fitness
- ۳) fitness exercise
- ۴) a good but safe aerobic workout

Answers: ۱. D / ۲. B / ۳. A / ۴. A / ۵. D

(reject: رد کردن / outdated: منقضی شده)

اینم جایزه‌ی تو برای اتمام این فصل، بازی‌ای با مضمون همین فصل!

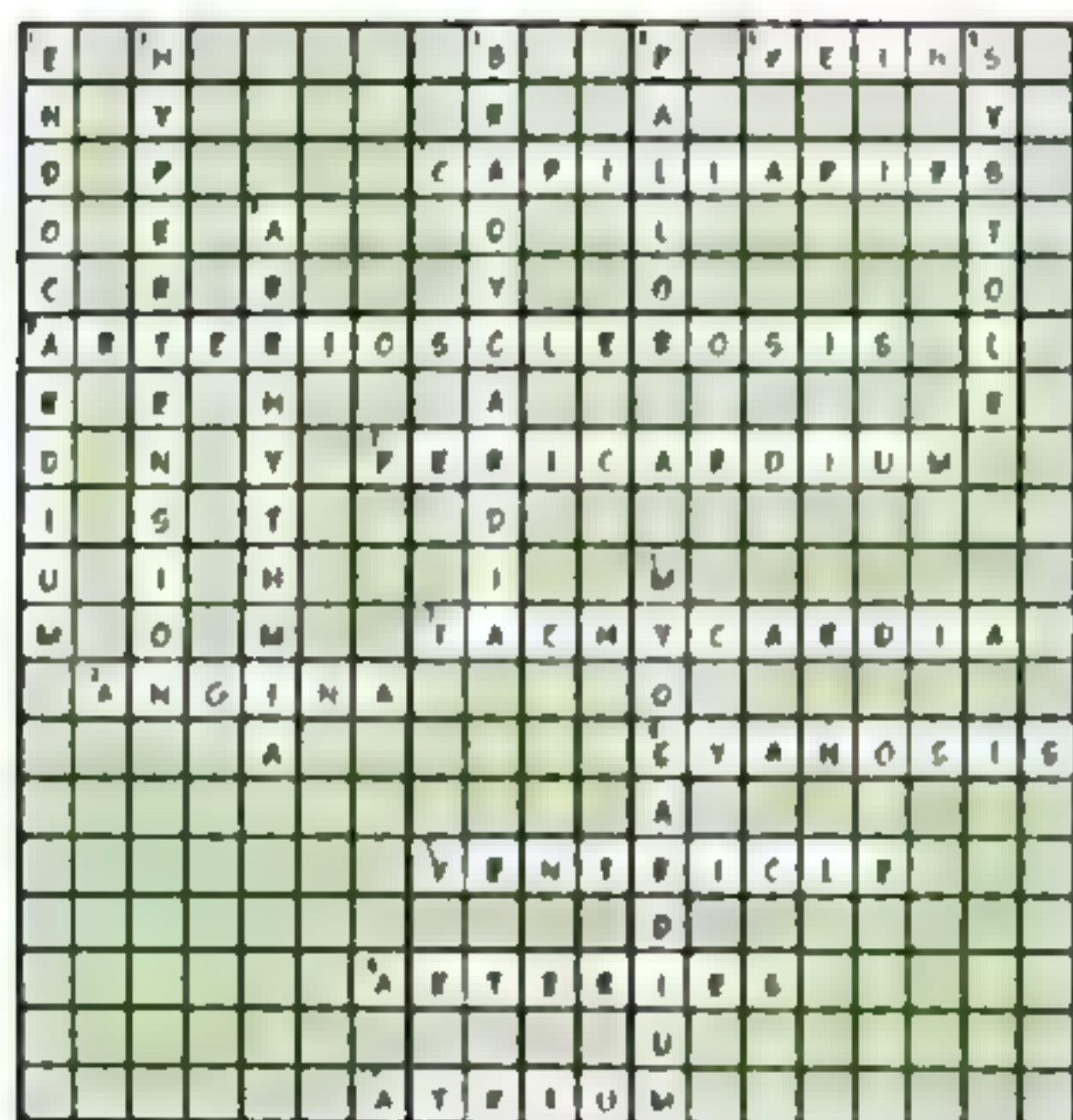


Across

- ۱. Return blood to the heart
- ۲. Smallest blood vessels
- ۳. Hardening of the arteries
- ۴. Thin sac that protects the heart
- ۵. Rapid heartbeat
- ۶. Chest pain
- ۷. Blue-colored skin
- ۸. Lower chamber of the heart
- ۹. Carry blood away from the heart
- ۱۰. Upper chamber of the heart

Down

- ۱. Lining of the heart's chambers
- ۲. High blood pressure
- ۳. Slow heartbeat
- ۴. Word for abnormal paleness
- ۵. When the heart contracts
- ۶. Deviation from normal rhythm
- ۷. Heart muscle



اینم پاسخششش



خون و ایمنی

Blood And Immunity

فصل ۸

Unit 8

تو این قسمت میخوانیم باز مثل قبل خون و ایمنی رو از نظر ساختار و عملکرد و از نظر بالینی بررسی کنیم. متن زیر رو بخون و اگر کلمه ای رو نمیدونستی معنیش چی میشه از ستون سمت راست استفاده کن. دوباره یادآوری کنم که قرار نیست خط به خط ترجمه کنی!!!!. باید فقط متن و لغات و معنیشون رو بفهمی و باهاشون آشنا بشی. مخصوصا اصطلاحات بولد و پررنگ شده رو خوب بخون. طراح ها بخوان سوال زبان اختصاصی وازگان طرح کنن از همین مباحث سوال طرح میکنند.

♦ بررسی خون و ایمنی از نظر ساختاری و عملکردی:

■ INTRODUCTION

Blood is the fluid that circulates<sup>1</sup> through the vessels, bringing oxygen and nourishment<sup>2</sup> to all cells and carrying away carbon dioxide and other waste<sup>3</sup> products. The blood also distributes<sup>4</sup> body heat and carries special substances, such as antibodies and hormones. Certain blood cells are a major<sup>5</sup> component<sup>6</sup> of the immune system<sup>7</sup>, which protects<sup>8</sup> against<sup>9</sup> disease.

■ BLOOD

The total adult blood volume is about 5 L. Whole<sup>1</sup> blood can be divided<sup>2</sup> into two main components: the liquid<sup>3</sup> portion<sup>4</sup>, or plasma (55 percent), and formed elements<sup>5</sup>, more commonly known as blood cells (45 percent)

• Blood Plasma

Plasma is about 90 percent water. The remaining<sup>1</sup> 10 percent contains<sup>2</sup> nutrients, electrolytes (dissolved salts<sup>3</sup>), gases<sup>4</sup>, albumin (a protein), clotting factors<sup>5</sup>, antibodies, wastes, enzymes, and hormones. Laboratories test for a multitude<sup>6</sup> of these substances in blood chemistry tests. The pH (relative acidity<sup>7</sup>) of the plasma remains steady at about 7.4.

• Blood Cells

The blood cells include erythrocytes, or red blood cells (RBCs); leukocytes, or white blood cells (WBCs); and platelets<sup>1</sup>, also called thrombocytes. All blood cells are produced in red bone marrow<sup>2</sup>. Some WBCs multiply<sup>3</sup> in lymphoid tissue<sup>4</sup> as well.

**Erythrocytes:** The major function<sup>1</sup> of erythrocytes is to carry oxygen to cells. This oxygen is bound<sup>2</sup> to an iron-containing pigment<sup>3</sup> in the cells called hemoglobin. Erythrocytes are small, disk-shaped<sup>4</sup> cells with no nuclei<sup>5</sup>. Their concentration<sup>6</sup> of about 5 million per microliter (mcL) of blood makes them by far the most numerous<sup>7</sup> of the blood cells. An RBC gradually<sup>8</sup> wears out<sup>9</sup> and dies in about 120 days, so these cells must be constantly<sup>10</sup> replaced. Production of red cells in the bone marrow is regulated<sup>11</sup> by the hormone erythropoietin (EPO), which is made in the kidneys.

**Leukocytes:** All WBCs show prominent<sup>1</sup> nuclei when stained<sup>2</sup>. They total about 5,000 to 10,000/mcL, but their number may increase<sup>3</sup> during infection. There are five types of leukocytes that vary<sup>4</sup> in their relative percentages and their functions. The different types are identified by the size and appearance<sup>5</sup> of the nucleus, by their staining properties<sup>6</sup>, and by whether or not they show visible granules in the cytoplasm when stained. Classified as granulocytes or agranulocytes, they are as follows:

- **Granulocytes**, or granular leukocytes, have visible granules in the cytoplasm when stained. A granulocyte has a segmented<sup>7</sup> nucleus. There are three types of granulocytes, named for the kind of stain (dye<sup>8</sup>) the granules take up:

- ۱- در گردش بودن / ۲- مواد مغذی
- ۳- مواد زائد / ۴- توزیع کردن / ۵- اصلی
- ۶- اجزاء / ۷- سیستم ایمنی
- ۸- محافظت کردن / ۹- در برابر

- ۱- تمام / ۲- تقسیم شدن
- ۳- مایع / ۴- بخش
- ۵- عناصر تشکیل شده

- ۱- باقی مانده / ۲- شامل
- ۳- نمک های حل شده / ۴- گازها
- ۵- فاکتورهای انعقادی / ۶- تعداد زیادی
- ۷- اسیدیته نسبی

- ۱- پلاکت / ۲- مغز استخوان
- ۳- تکثیر یافتن / ۴- بافت لنفاوی

- ۱- عملکرد / ۲- پیوند و اتصال
- ۳- رنگدانه / ۴- به شکل صفحه
- ۵- هسته / ۶- غلظت / ۷- بی شمار
- ۸- تدریجی / ۹- فرسوده شدن
- ۱۰- مداوم / ۱۱- تنظیم شدن

- ۱- واضح / ۲- رنگ آمیزی شدن
- ۳- افزایش
- ۴- متفاوت بودن
- ۵- ظاهر
- ۶- ویژگی ها
- ۷- قطعه قطعه
- ۸- رنگ



- Neutrophils stain weakly with both acidic and basic dyes.
- Eosinophils stain strongly with acidic dyes.
- Basophils stain strongly with basic dyes.

- **Agranulocytes** do not show visible granules when stained. An agranulocyte's nucleus is large and either round or curved<sup>9</sup>

۹- متعنی

. There are two types of agranulocytes:

- Lymphocytes are the smaller agranulocytes.
- Monocytes are the largest of all the WBCs.

WBCs protect against foreign substances. Some engulf<sup>1</sup> foreign material by the process of phagocytosis; others have different functions in the immune system. The most numerous WBCs, neutrophils, are called *polymorphs* because of the various shapes of their nuclei. A band cell, also called a *stab cell*, is an immature<sup>2</sup> neutrophil with a solid curved nucleus. Large numbers of band cells in the blood indicate an active<sup>3</sup> infection.

۱- دربر گرفتن

۲- نابالغ

۳- فعال

۱- قطعات

**Platelets:** The blood platelets (thrombocytes) are not complete cells, but fragments<sup>1</sup> of large cells named megakaryocytes, which form in bone marrow. They number from 200,000 to 400,000/mcL of blood. Platelets are important in hemostasis<sup>2</sup>, the prevention<sup>3</sup> of blood loss, which includes the process of blood clotting<sup>4</sup>, or coagulation<sup>5</sup>.

۲- بند آوردن خونریزی

۳- جلوگیری / ۴- لخته شدن

۵- انعقاد یا لخته شدن

When a vessel is injured<sup>6</sup>, platelets stick<sup>7</sup> together to form a plug<sup>8</sup> at the site. Substances released from the platelets and from damaged tissue then interact<sup>9</sup> with clotting factors in the plasma to produce a wound-sealing clot. Clotting factors are inactive in the blood until an injury occurs. To protect against unwanted<sup>10</sup> clot formation, 12 factors must interact before blood coagulates. The final reaction is the conversion<sup>11</sup> of fibrinogen to threads<sup>12</sup> of fibrin that trap<sup>13</sup> blood cells and plasma to produce the clot. The plasma that remains after blood coagulates is serum.

۶- آسیب دیدن / ۷- چسبیدن

۸- بستن / ۹- واکنش دادن

۱۰- ناخواسته

۱۱- تبدیل شدن

۱۲- رشته‌ها

۱۳- به دام انداختن

## • Blood Types

Genetically inherited<sup>1</sup> proteins on the surface of RBCs determine blood type. The most familiar of them are the ABO and Rh blood groups. The ABO system includes types A, B, AB, and O. The Rh types are Rh positive (Rh+) and Rh- negative (Rh-). Blood is typed<sup>2</sup> by mixing samples separately<sup>3</sup> with different prepared<sup>4</sup> antisera. Red cells in the sample will agglutinate (clump<sup>5</sup>) with the antiserum that corresponds to the blood type.

۱- ارثی

۲- طبقه بندی کردن

۳- جداگانه

۴- آماده شده

۵- تجمع یافتن، آگلوتیناسیون

In giving blood transfusions<sup>6</sup>, it is important to use blood that is the same type as the recipient's<sup>7</sup> blood or a type to which the recipient will not have an immune reaction. In an emergency, type O, Rh-negative blood can be used because these red cells will not induce an immune response. When there is time, laboratories perform<sup>8</sup> more complete tests for compatibility<sup>9</sup> that take additional blood proteins into account. In this process of cross-matching, donor<sup>10</sup> red cells are mixed with recipient serum to test for a reaction.

۶- انتقال خون

۷- گیرنده

۸- انجام دادن

۹- تطابق

۱۰- اهدا کننده

## ■ IMMUNITY

Immunity is protection against disease. It includes defenses<sup>1</sup> against harmful<sup>2</sup> micro-organisms, their products, or any other foreign substance. These defenses may be inborn<sup>3</sup> or acquired<sup>4</sup> during life.

۱- دفاع‌ها / ۲- آسیب رسان

۳- ذاتی

۴- اکتسابی



## • Innate<sup>5</sup> Immunity

Innate defense mechanisms protect against any invading<sup>6</sup> organism or harmful foreign substance, not any particular<sup>7</sup> one. Thus, they are described as *nonspecific*<sup>8</sup>. These defenses are inborn and are based<sup>9</sup> on an individual's inherited genetic makeup<sup>10</sup>. Most of these protections are physical barriers<sup>11</sup> or chemical defenses and include the following:

- Unbroken skin, which acts as a barrier
- Cilia<sup>12</sup>, tiny cell projections that sweep<sup>13</sup> impurities<sup>14</sup> out of the body, as in the respiratory tract
- Mucus that traps foreign material
- Bactericidal<sup>15</sup> body secretions, as found in tears<sup>16</sup>, skin, digestive<sup>17</sup> tract, and reproductive tract
- Reflexes, such as coughing<sup>18</sup> and sneezing<sup>19</sup>, which expel<sup>20</sup> impurities
- Lymphoid tissue, which filters impurities from blood and lymph
- Phagocytes, cells that attack, ingest, and destroy foreign organisms

## • Adaptive Immunity

Adaptive immunity is acquired during life and is *specific*, that is, directed<sup>1</sup> toward a particular disease organism or other foreign substance. Protection against measles<sup>2</sup>, for example, will not protect against chickenpox<sup>3</sup> or any other disease.

The adaptive immune response involves complex interactions between components of the lymphatic system and the blood. Any foreign particle<sup>4</sup>, but mainly proteins, may act as an antigen, a substance that provokes<sup>5</sup> an immune response. This response comes from two types of lymphocytes that circulate in the blood and lymphatic system:

- **T cells (T lymphocytes)** mature in the thymus. They are capable<sup>6</sup> of attacking a foreign cell directly, producing *cell-mediated immunity*. Immune cells known as antigen presenting cells (APCs), which take in and process foreign antigens, are important to T cell function. A T cell is activated when it contacts an antigen on an APC's surface in combination with some of the body's own proteins. Examples of APCs are dendritic cells and macrophages, which are descendants<sup>7</sup> of monocytes.
- **B cells (B lymphocytes)** mature in bone marrow. When they meet a foreign antigen, they multiply rapidly<sup>8</sup> and mature into **plasma cells**. These cells produce antibodies, also called **immunoglobulins (Ig)**, that inactivate antigens. Antibodies remain in the blood, often providing<sup>9</sup> long-term<sup>10</sup> immunity to the specific organism against which they were formed. Antibody-based immunity is referred to as *humoral immunity*.

## • Types of Adaptive Immunity

Adaptive immunity may be acquired either naturally<sup>1</sup> or artificially<sup>2</sup>. In addition, each avenue<sup>3</sup> for acquiring such immunity may be either active or passive. In active immunity, a person makes his or her own antibodies in response<sup>4</sup> to contact with an antigen. In passive immunity, an antibody, known as an immune serum, is transferred from an outside source. Immune sera may come from other people or from immunized animals. The portion of the blood plasma that contains antibodies is the **gamma globulin fraction**. The types of adaptive immunity are:

- Natural adaptive immunity
  - o Active—from contact with a disease organism or other foreign antigen
  - o Passive—by transfer of antibodies from a mother to her fetus<sup>5</sup> through the placenta<sup>6</sup> or through the mother's milk

۵- ذاتی

۶- مهاجم

۷- خاص و مشخص / ۸- غیر اختصاصی

۹- براساس / ۱۰- آرایش ژنتیکی

۱۱- سدها

۱۲- مژک‌ها

۱۳- جاروب کردن / ۱۴- آلودگی‌ها

۱۵- باکتری کش / ۱۶- اشک‌ها

۱۷- گوارش

۱۸- سرفه

۱۹- عطسه / ۲۰- بیرون انداختن

۱- هدایت شده

۲- سرخک

۳- ابله مرغان

۴- ذره

۵- تحریک کردن

۶- قابلیت

۷- نوادگان

۸- به سرعت

۹- فراهم کردن

۱۰- طولانی مدت

۱- طبیعی

۲- مصنوعی

۳- مسیره خیابان

۴- پاسخ

۵- جنین

۶- جفت



۷- تجویز

- Artificial adaptive immunity
  - o Active—by administration<sup>7</sup> of a vaccine, which may be a killed or weakened<sup>8</sup> organism, part of an organism, or an altered<sup>9</sup> toxin (toxoid)
  - o Passive—by administration of an immune serum obtained<sup>10</sup> from other people or animals

۸- ضعیف شده

۹- تغییر یافته

۱۰- گرفته شده

خب حالا که متن درس رو خوندی، چند تا ریشه و پسوند مرتبط با همین درس یاد بگیریم. برات معنی هر بخش رو نوشتم و یه مثال با معنیش رو هم نوشتم. حتی نحوه خوندنشون رو هم واست نوشتم که دیگه حتی تلفظشون رو هم خوب یاد بگیری.

Root or Suffix	Meaning	Example	Definition of Example
-emia, -hemia	condition of blood (وضعیتی در خون)	polycythemia (پلی‌سایتمیا)	افزایش تمام سلول‌ها (Cyt) در خون
-penia	decrease in/deficiency of (کاهش، کمبود)	Cytopenia (سایتوپنیا)	کاهش سلول‌ها
-poiesis	formation, production (تشکیل، تولید)	hemopoiesis (هموپوئیسز)	تولید سلول‌های خون
myel/o	bone marrow (مغز استخوان)	myelogenous (مایلوژنوس)	منشاء گرفته از مغز استخوان
hem/o, hemat/o	blood (خون)	hemopathy (هموپاتی)	هر اختلالی در خون
erythr/o, eryth- rocyte/o	red blood cell (گلوبول قرمز)	erythroblast (اریتروبلست)	گلوبول قرمز نابالغ
leuk/o, leukocyt/o	white blood cell (گلوبول سفید)	leukocytosis (لوکوسیتوز)	افزایش تعداد گلوبول سفید در خون (سلول + osis = افزایش تعداد)
lymph/o, lymphocyte/o	lymphocyte (لنفوسیت)	lymphatic (لیمفاتیک)	مربوط به لنفوسیت‌ها
thromb/o	blood clot (لخته خون)	thrombolytic (ترومبولیتیک)	حل کردن لخته خون
thrombocyt/o	platelet, thrombocyte (پلاکت)	thrombocytopenia (ترومبوسایتوپنی)	کاهش پلاکت‌ها
immune/o	immunity, immune system (ایمنی، سیستم ایمنی)	immunization (ایمونیزیشن)	تولید یا ایجاد ایمنی

یه اصطلاح دیگه ای هم که داریم و تو این جدول ننوشتیم آنیزوسیتوز (Anisocytosis). حالا یعنی چی؟ بیایم بشکافیمش. Cytosis رو که دیگه میدونین یعنی زیاد شدن سلول ... iso هم یعنی هم سایز و هم اندازه ... An هم برای منفی کردن میاد! پس آنیزوسیتوز میشه افزایش سلول‌هایی با سایزهای نابرابر اما!!!! این اصطلاح رو فقط برای سلول‌های قرمز (اریتروسیت‌ها) به کار میبرن! اینم گفتم بگم جا نمونه.



به سری ریشه هم راجع به یون ها یاد بگیر:

Root	Meaning	Example	Definition of Example
azoto	ترکیبات نیتروژن	azoturia (زوتوریا)	افزایش ترکیبات نیتروژن در ادرار (وضعیت در ادرار = uria-)
calci	کلسیم	calcification (کلسیفیکشن)	تجمع نمک های کلسیمی
ferro, ferri	آهن	ferrous (فروس)	مربوط به یا شامل آهن
sidero	آهن	sideroderma (سیدرودرما)	تجمع آهن در پوست
kali	پتاسیم	hyperkalemia (هایپرکالمیا)	افزایش پتاسیم خون
natri	سدیم	natriuresis (ناتریورزیس)	ترشح سدیم به ادرار
oxy	اکسیژن	hypoxia (هایپوکسیا)	کمبود اکسیژن در بافت ها

حالا به سری جمله می نویسم و تو با همین ریشه ها و پسوندهایی که یادگرفتی واژگون کلمه بساز! نترس مثل پازل میمونه!

- |   |   |
|---|---|
| 1. Decrease in white blood cells                      | 1. Erythroclasis is the breaking (-clasis) of _____                       |
| 2. Immature lymphocyte                                | 2. Hemorrhage is a profuse flow (-rhage) of _____                         |
| 3. Formation of bone marrow                           | 3. Presence of excess WBC in blood  |
| 4. Increase (-osis) in granulocytes                   | 4. Formation of fibrous tissue (-fibrosis) and destruction of bone marrow |
| 5. Presence of erythrocytes with unequal sizes        | 5. Hemorrhage in to spinal corel  |
| 6. Presence of pathogenic bacteria in the blood _____ | 6. Vomiting blood   |
| 7. Leukopoiesis refers to production of _____         |   |

Answer: 1. Leukopenia (leukocytopenia) / 2. Lymphoblast / 3. Myelopoiesis / 4. Granulocytosis / 5. Anisocytosis / 6. Septicemia / 7. WBC / 8. RBC / 9. Blood / 10. Leukemia / 11. Myelofibrosis / 12. Hematomyelia / 13. Hematemesis

سخت که نبود؟ قشنگ رو این مبحث مسلط شدی هرچی بهت بدن دیگه میتونی جواب بدی.

1. The state in which any of three recessive disorders of galactose metabolism causes accumulation of galactose in the blood is referred to as \_\_\_\_\_

- 1. galactodase
- 2. galacterreha
- 3. galactosemia
- 4. galactostasis

3. The term "Anisocytosis" refers to the .....

- 1) Presence of erythrocytes with unequal sizes
- 2) Abnormality in the cell production process
- 3) Abnormal enlargement of a cell
- 4) Inability to produce cells

پزشکی

پزشکی



۳. Deficiency in white blood cells is called.....

- ۱) Leukemia                      ۲) Leukocytopenia  
۳) Leukopolesis                ۴) Leukocytosis

بزرگی  
کوچکی  
تخمین

۵. Myelofibrosis is a disease in which there is .....

- ۱) Absence of bone marrow.  
۲) Lymphatic tissue in the bone marrow.  
۳) Destruction of the bone marrow.  
۴) dangerously high hemoglobin and hematocrit

بزرگی  
کوچکی  
تخمین

۶. Process by which the human body gets rid of ..... micro-organisms is called phagocytosis.

- ۱) Invading                      B) Cancerous  
۲) Pathogenic                    D) Benign  
(Invading: مهاجم / Cancerous: سرطانی / Pathogenic: آسیب‌زا / Benign: خوش‌خیم)

بزرگی  
کوچکی  
تخمین

۷. "Sideroderma" is a condition that refers to the "....." of "....." Into skin.

- ۱) Deposition- sodium  
۲) Deficiency- iron  
۳) Deposition- iron  
۴) Deficiency- sodium

بزرگی  
کوچکی  
تخمین

۱. Which of the following terms means "a decrease in all cells of the blood"?

- ۱) Leukopenia                      ۲) Polycythemia  
۳) Pancytopenia                ۴) Thrombocytopenia

بزرگی  
کوچکی  
تخمین

۲. Blood platelets are continually involved in microscope ....., seal the gaps that occur normally in capillary and venule endothelium.

- ۱) Degeneration                B) Approximation  
۳) Hemostasis                    D) Coagulation  
(Degeneration: تخریب و نابودی / Approximation: تخمین / Hemostasis: هموستاز و جلوگیری از خونریزی)

بزرگی  
کوچکی  
تخمین

۳. A phagocytoblast is .....

- ۱) A phagocyte unable to perform phagocytosis.  
۲) A cell which acts like a mature phagocyte.  
۳) An abnormal phagocyte.  
۴) A primitive cell developing into phagocyte.

بزرگی  
کوچکی  
تخمین

۴. Introduction of blood or blood components from one person to another is called .....

- ۱) Transfusion  
۲) Infusion  
۳) Injection  
۴) Transplantation

بزرگی  
کوچکی  
تخمین

Answers: ۱. C / ۲. A / ۳. B / ۴. C / ۵. C / ۶. D / ۷. A / ۸. D / ۹. C / ۱۰. A

## ♦ بررسی خون و ایمنی از نظر بالینی:

### ■ ANEMIA

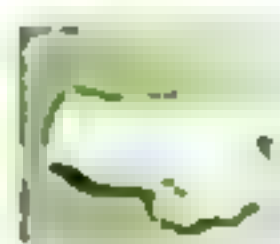
Anemia<sup>۱</sup> is defined as an abnormally low amount of hemoglobin in the blood. Anemia may result from too few RBCs or from cells that are too small (microcytic<sup>۲</sup>) or have too little hemoglobin (hypochromic<sup>۳</sup>). Key tests in diagnosing anemia are blood counts<sup>۴</sup>, mean corpuscular volume (MCV), and mean corpuscular hemoglobin concentration (MCHC). Below box describes these and other blood tests.

۱- کم خونی

۲- سلول کوچک

۳- کم رنگ (chrom = رنگ)

۴- شمارش



#### FOR YOUR REFERENCE Common Blood Tests

10x104

Test	Abbreviation	Description
red blood cell count	RBC	number of red blood cells per microliter of blood
white blood cell count	WBC	number of white blood cells per microliter of blood
differential count	Dif	relative percentage of the different types of leukocytes
hematocrit (Fig. 10-10)	Ht, Hct, crit	relative percentage of packed red cells in a given volume of blood
packed cell volume	PCV	hematocrit
hemoglobin	Hb, Hgb	amount of hemoglobin in g/dL (100 mL) of blood
mean corpuscular volume	MCV	volume of an average red cell
mean corpuscular hemoglobin	MCH	average weight of hemoglobin in red cells
mean corpuscular hemoglobin concentration	MCHC	average concentration of hemoglobin in red blood cells
erythrocyte sedimentation rate	ESR	rate of erythrocyte settling per unit of time; used to detect infection or inflammation
complete blood count	CBC	series of tests including cell counts, hematocrit, hemoglobin, and cell volume measurements



The general<sup>1</sup> symptoms of anemia include fatigue<sup>2</sup>, shortness of breath, heart palpitations<sup>3</sup>, pallor<sup>4</sup>, and irritability<sup>5</sup>. There are many different types of anemia, some of which are caused by faulty<sup>6</sup> production of red cells and others by loss or destruction of red cells.

### • Anemia due to Impaired<sup>1</sup> Production of Red Cells

- **Aplastic anemia** results from bone marrow destruction and affects<sup>2</sup> all blood cells (pancytopenia<sup>3</sup>). It may be caused by drugs, toxins, viruses, radiation<sup>4</sup>, or bone marrow cancer. Aplastic anemia has a high mortality rate<sup>5</sup> but has been treated<sup>6</sup> successfully with bone marrow transplantation<sup>7</sup>.
- **Nutritional anemia** may result from a deficiency of vitamin B12 or folate, B vitamins needed for RBC development<sup>8</sup>. Most commonly, it is caused by a deficiency of iron, needed to make. Folate deficiency commonly appears in those with poor diet, in pregnant<sup>9</sup> and lactating<sup>10</sup> women, and in those who abuse<sup>11</sup> alcohol. Iron deficiency anemia results from poor diet<sup>12</sup>, poor iron absorption<sup>13</sup>, or blood loss. Both folate deficiency and iron deficiency respond to dietary supplementation<sup>14</sup>.
- **Pernicious<sup>15</sup> anemia** is a specific form of B12 deficiency. It results from the lack of **intrinsic factor (IF)**, a substance produced in the stomach that aids<sup>16</sup> in the intestinal absorption of B12. Pernicious anemia must be treated with regular B12 injections. Patients usually present with **symmetrical paresthesia<sup>17</sup>**.
- In **sideroblastic anemia**, adequate<sup>18</sup> iron is available, but the iron is not used properly to manufacture<sup>19</sup> hemoglobin. This disorder may be hereditary<sup>20</sup> or acquired, as by exposure to toxins or drugs. It may also be secondary<sup>21</sup> to another disease. The excess iron precipitates<sup>22</sup> out in immature red cells.

### • Anemia due to Loss or Destruction of Red Cells

- **Hemorrhagic anemia** results from blood loss. This may be a sudden<sup>1</sup> loss, as from injury, or loss from chronic internal bleeding<sup>2</sup>, as from the digestive tract in cases of ulcers<sup>3</sup> or cancer.
- **Thalassemia** is a hereditary disease that appears mostly in Mediterranean populations. A genetic mutation causes abnormal hemoglobin production and hemolysis (destruction) of red cells. Thalassemia is designated as  $\alpha$  (alpha) or  $\beta$  (beta), according<sup>4</sup> to the part of the hemoglobin molecule affected.
- In **sickle cell anemia**, a mutation alters the hemoglobin molecule so that it precipitates (settles out) when it gives up oxygen, distorting the RBCs into a crescent<sup>5</sup> shape (Fig. 10- 12). The altered cells block small blood vessels and deprive<sup>6</sup> tissues of oxygen, an episode termed sickle cell crisis<sup>7</sup>. The misshapen<sup>8</sup> cells are also readily destroyed (hemolyzed). Genetic carriers of the defect, those with one normal and one abnormal gene, show sickle cell trait<sup>9</sup>. They usually have no symptoms, except when oxygen is low, such as at high altitudes<sup>10</sup>. They can, however, pass the defective gene to offspring<sup>11</sup>.

**Reticulocyte counts** are useful in diagnosing the causes of anemia. Reticulocytes are immature RBCs that normally appear as a small percentage of the total erythrocytes. An increase in the reticulocyte count indicates increased red cell formation, as in response to hemorrhage or cell destruction. A decrease in reticulocytes indicates a failure in red cell production, as caused by nutritional deficiency or aplastic anemia.

- ۱- عمومی / ۲- خستگی / ۳- طبع قلب
- ۴- رنگ پریدگی / ۵- بی‌قراری
- ۶- معیوب
- ۱- مختل و معیوب
- ۲- اثر گذاشتن
- ۳- کاهش تمام سلول‌ها / ۴- اشعه
- ۵- میزان مرگ / ۶- درمان کردن
- ۷- پیوند عضو
- ۸- تشکیل / ۹- بارداری
- ۱۰- شیرده
- ۱۱- سوء مصرف
- ۱۲- رژیم
- ۱۳- جنب / ۱۴- مکمل غذایی
- ۱۵- کشنده
- ۱۶- کمک کردن
- ۱۷- بی‌حسی قرینه
- ۱۸- کافی
- ۱۹- ساختن / ۲۰- ارثی
- ۲۱- ثانویه به
- ۲۲- رسوب کردن

- ۱- ناگهان
- ۲- خونریزی داخلی
- ۳- زخم‌ها

- ۴- با توجه به
- ۵- هلالی
- ۶- محروم کردن
- ۷- بحران
- ۸- بدشکل
- ۹- صفت
- ۱۰- ارتفاع بلند
- ۱۱- فرزندان



## ■ COAGULATION DISORDERS

The most common cause of coagulation problems is a deficiency in the number of circulating platelets, a condition termed **thrombocytopenia**<sup>1</sup>. Possible<sup>2</sup> causes include aplastic anemia, infections, bone marrow cancer, and agents that destroy bone marrow, such as x-rays or certain drugs. This disorder results in bleeding into the skin and mucous membranes, variously described as **petechiae** (pinpoint spots<sup>3</sup>), **ecchymoses** (bruises<sup>4</sup>), and **purpura** (blue lesions).

In **disseminated intravascular coagulation (DIC)**, widespread<sup>5</sup> clotting in the vessels obstructs<sup>6</sup> circulation to the tissues. This is followed by diffuse hemorrhages as clotting factors are removed and the coagulation process is impaired. DIC may result from a variety of causes, including infection, cancer, hemorrhage, injury, and allergy.

**Hemophilia** is a hereditary deficiency of a specific clotting factor. It is a genetically sex-linked<sup>7</sup> disease that is passed from mother to son. There is bleeding into the tissues, especially into the joints (**hemarthrosis**<sup>8</sup>). Hemophilia must be treated with transfusions of the necessary clotting factor.

## ■ NEOPLASMS

**Leukemia** is a neoplasm of WBCs. The rapidly dividing but incompetent<sup>1</sup> white cells accumulate<sup>2</sup> in the tissues and crowd out the other blood cells. The symptoms of leukemia include anemia, fatigue, easy bleeding, **splenomegaly**<sup>3</sup>, and sometimes **hepatomegaly**<sup>4</sup> (enlargement of the liver). The causes of leukemia are unknown<sup>5</sup> but may include exposure to radiation or harmful chemicals, hereditary factors, and perhaps viral infection. The two main categories of leukemia are determined by origin and the cells involved:

- Myelogenous leukemia originates in the bone marrow and involves mainly the granular leukocytes.
- Lymphocytic leukemia affects B cells and the lymphatic system, causing **lymphadenopathy**<sup>6</sup> (lymph node disease) and adverse effects on the immune system.

Leukemias are further differentiated as acute or chronic based on clinical progress. Acute leukemia is the most common form of cancer in young children. The acute forms are:

- Acute myeloblastic (myelogenous) leukemia (AML). The prognosis<sup>7</sup> in AML is poor.
- Acute lymphoblastic (lymphocytic) leukemia (ALL). With treatment, the ALL remission<sup>8</sup> rate is high.

The chronic forms of leukemia are:

- Chronic myelogenous leukemia (CML) affects young to middle-aged adults.
- Chronic lymphocytic leukemia (CLL) appears mostly in the elderly and is the most slowly growing form of the disease.

Leukemia treatment includes chemotherapy, radiation therapy, and bone marrow transplantation. One advance<sup>1</sup> in transplantation is the use of umbilical cord<sup>2</sup> blood to replace blood-forming cells in bone marrow. This blood is more readily available than bone marrow and does not have to match as closely to avoid rejection<sup>3</sup>.

**Hodgkin disease** is a disease of the lymphatic system that may spread<sup>4</sup> to other tissues. It begins with enlarged but painless<sup>5</sup> lymph nodes in the cervical (neck) region and then progresses<sup>6</sup> to other nodes. A feature<sup>7</sup> of Hodgkin disease is giant cells in the lymph nodes called **Reed-Sternberg**. Symptoms include fever, night sweats<sup>8</sup>, weight loss, and skin itching (**pruritus**<sup>9</sup>). Persons of any age may be affected, but the disease predominates<sup>10</sup> in young adults and those over 50 years.

۱- کاهش پلاکت‌ها

۲- احتمالی

۳- نقاط سوزنی

۴- کبودی‌ها

۵- منتشر

۶- مسدود کردن

۷- وابسته به جنس

۸- خونریزی به داخل مفصل

۱- نامناسب

۲- تجمع یافتن

۳- بزرگی طحال

۴- بزرگی کبد

۵- ناشناخته

۶- درگیری گره لنفاوی

۷- پیش‌آگهی

۸- بهبودی

۱- پیشرفت

۲- بند ناف

۳- رد پیوند

۴- منتشر شدن / بدون درد

۶- پیشرفت کردن / ویژگی

۸- تعریق شبانه / خارش

۱۰- شایع‌تر بودن



**Non-Hodgkin lymphoma (NHL)** is also a malignant<sup>1</sup> enlargement of lymph nodes but does not show Reed-Sternberg cells. It is more common than Hodgkin disease and has a higher mortality rate. Cases vary in severity<sup>2</sup> and prognosis. It is most prevalent<sup>3</sup> in the older adult population and in those with AIDS and other forms of immunodeficiency. NHL involves the T or B lymphocytes, and some cases may be related to infection with certain<sup>4</sup> viruses. It requires systemic chemotherapy and sometimes bone marrow transplantation.

**Multiple myeloma** is a cancer of the blood-forming cells in bone marrow, mainly the plasma cells that produce antibodies. The disease causes anemia, bone pain, and bone weakening. Patients have a greater susceptibility<sup>5</sup> to infection because of immunodeficiency. Abnormally high levels of calcium and protein in the blood often lead to kidney failure.

## ■ HYPERSENSITIVITY

**Hypersensitivity<sup>1</sup>** is a harmful overreaction<sup>2</sup> of the immune system, commonly known as allergy. In cases of allergy, a person is more sensitive<sup>3</sup> to a particular antigen than the average individual. Common allergens are pollen<sup>4</sup>, animal dander<sup>5</sup>, dust, and foods, but there are many more. A seasonal allergy to inhaled pollens is commonly called "hay fever<sup>6</sup>". Responses may include itching, redness, or tearing<sup>7</sup> of the eyes (conjunctivitis<sup>8</sup>), skin rash<sup>9</sup>, asthma, runny nose<sup>10</sup> (rhinitis), sneezing<sup>11</sup>, urticaria<sup>12</sup> (hives), and angioedema, a reaction similar to hives but involving deeper layers of tissue.

An **anaphylactic reaction** is a severe generalized allergic response that can rapidly lead to death as a result of shock and respiratory distress. It must be treated by immediate administration of **epinephrine (adrenaline)** and maintenance of open airways. Oxygen, antihistamines, and corticosteroids may also be given. Common causes of anaphylaxis are drugs, especially penicillin and other antibiotics, vaccines, diagnostic chemicals, foods, and insect venom.

A **delayed hypersensitivity reaction** involves T cells and takes at least 12 hours to develop. A common example is the reaction to contact with plant irritants<sup>13</sup> such as those of poison ivy and poison oak.

## ■ IMMUNODEFICIENCY

The term **immunodeficiency** refers to any failure in the immune system. This may be congenital<sup>1</sup> (present at birth) or acquired and may involve any components of the system. The deficiency may vary in severity but is always evidenced by an increased susceptibility to disease.

**Acquired immunodeficiency syndrome (AIDS)** is acquired by infection with human immunodeficiency virus (HIV), which attacks certain T cells. These cells have a specific surface attachment<sup>2</sup> site, the CD4 receptor, for the virus. HIV is spread by sexual contact<sup>3</sup>, use of contaminated<sup>4</sup> needles, blood transfusions, and passage<sup>5</sup> from an infected mother to her fetus. It leaves the host susceptible to opportunistic<sup>6</sup> infections such as pneumonia caused by the fungus *Pneumocystis jirovecii*; thrush<sup>7</sup>, an oral fungal infection; and infection with *Cryptosporidium*, a protozoon that causes cramps<sup>8</sup> and diarrhea<sup>9</sup>. It also predisposes<sup>10</sup> the patient to Kaposi sarcoma, a rare form of skin cancer. AIDS may also induce autoimmunity or attack the nervous system.

AIDS is diagnosed and monitored by **CD4+ T lymphocyte counts**, a measure<sup>11</sup> of cells with the HIV receptor. A count of less than 200/mcL of blood signifies<sup>12</sup> severe immunodeficiency. HIV antibody levels and direct viral blood counts are also used to track the disease's course<sup>13</sup>. At present there is no vaccine or cure for AIDS, but drugs can delay<sup>14</sup> its progress.

۱- بدخیم

۲- شدت

۳- شایع بودن

۴- مشخص و خاص

۵- مستعد بودن به

۱- ازدیاد حساسیت

۲- واکنش بیش از حد

۳- حساس

۴- گرد گل و گیاه

۵- شوره حیوان

۶- تب ینجه

۷- اشک ریزش

۸- التهاب ملتحمه

۹- بشورات پوستی

۱۰- آبریزش بینی

۱۱- عطسه / ۱۲- کهیر

۱۳- محرک‌ها

۱- مادرزادی

۲- اتصال

۳- تماس جنسی

۴- آلوده

۵- عبور

۶- فرصت طلب

۷- برفک

۸- گرفتگی عضلات

۹- اسهال

۱۰- مستعد کردن

۱۱- اندازه گیری کردن

۱۲- نشان دادن

۱۳- سیر بیماری

۱۴- به تاخیر انداختن



## ■ AUTOIMMUNE DISEASES

A disorder that results from<sup>1</sup> an immune response to one's own tissues is classified as an **autoimmune disease**. The cause may be a failure in the immune system or a reaction to body cells that have been slightly<sup>2</sup> altered by mutation or disease. The list of diseases that are believed to be caused, at least in part, by autoimmunity is long. Some, such as **systemic lupus erythematosus (SLE)**, **systemic sclerosis (scleroderma)**, and **Sjögren syndrome**, affect tissues in multiple systems. Others target more specific organs or systems. Examples are **pernicious anemia**, **rheumatoid arthritis**, **Grave's disease** (of the thyroid), **myasthenia gravis** (a muscle disease), **fibromyalgia syndrome** (a musculoskeletal disorder), **rheumatic heart disease**, and **glomerulonephritis** (a kidney disease).

۱- ناشی از

۲- اندکی

خب حالا که کلی لغت یاد گرفتیم یه دوره کلی هم بکنیم از چیزایی که تو این درس یاد گرفتیم و بعد هم تست و سپس بازی!!

۱. The engulfing of foreign material by white cells
۲. A hematoma is a localized collection of \_\_\_\_\_
۳. A myeloma is a neoplasm that involves the \_\_\_\_\_
۴. Urticaria is commonly called \_\_\_\_\_
۵. Stoppage of blood flow

۱. Able to dissolve a clot
۲. Deficiency in the amount of hemoglobin in the blood
۳. enlargement of the spleen
۴. An increase in the number of monocytes in the blood
۵. Presence of pus in the blood

**Answer:** ۱. Phagocytosis / ۲. Blood / ۳. Bone marrow / ۴. Hives / ۵. Hemostasis / ۶. Thrombolytic / ۷. Anemia / ۸. Splenomegaly / ۹. Monocytosis / ۱۰. Pyemia

اینم باز یه سری تست از همین مبحث! میخوام بهت ارزش این متن‌ها رو نشون بدم!

۱. Patients with pernicious anemia usually present with symmetrical .....
- ۱) Jaundice
- ۲) Pallor
- ۳) Blood loss
- ۴) Paresthesia

۱  
۲  
۳  
۴

۲. Which of the following conditions refers to "minute, pinpoint hemorrhage under the skin"?
- ۱) Soriasis
- ۲) Pruritus
- ۳) Pediculosis
- ۴) Petechia

۱  
۲  
۳  
۴

۳. Extrapolation of blood into a joint or its synovial cavity is referred to as .....
- ۱) hemarthrosis
- ۲) hematochyloria
- ۳) hematidrosis
- ۴) hemangioma

۱  
۲  
۳  
۴

۴. Predicting the outcome of a disease for better follow up and understanding the course of the disease is called .....
- ۱) Outstanding
- ۲) Prognosis
- ۳) Prevention
- ۴) Diagnosis

۱  
۲  
۳  
۴

(Outstanding: بی‌نظیر / Prevention: پیشگیری / Diagnosis: تشخیص)

۵. His disease was in a state of ..... for about a year, but unfortunately the growth of a new tumor reversed the condition.
- ۱) Integration
- ۲) Remission
- ۳) Induction
- ۴) Convulsion

۱  
۲  
۳  
۴

۶. Since birth he has had 15 arm and leg fracture as result of his ..... Disease.
- ۱) intra medullar
- ۲) mandibular
- ۳) congenital
- ۴) circumferential

۱  
۲  
۳  
۴

(Integration: ادغام / Induction: القا / Convulsion: تشنج)



۱. Since HIV ..... the immune system, patients often fall victim to illnesses such as pneumocystis pneumonia, tuberculosis, and other infections.

- ۱) Repairs
- ۲) impairs
- ۳) despairs
- ۴) prepares

(Repairs: تعمیر کردن / despairs: ناامید شدن / prepares: آماده شدن)

۲. People with diabetes are ..... to infections.

- ۱) Immune
- ۲) Resistant
- ۳) Susceptible
- ۴) Unaffected

(Immune: ایمن بودن / Resistant: مقاوم بودن / Unaffected:)

تاثیر نگرفته)

Answers: ۱. D / ۲. D / ۳. A / ۴. B / ۵. B / ۶. C / ۷. B / ۸. C

حالا که کامل این مبحث رو یاد گرفتیم به متن از «پزشکی قطبی» بزنیم که به این مبحث مربوط میشه.

Iron deficiency has long been associated with fatigue and impaired physical work capacity. The current recognition<sup>1</sup> of the roles<sup>2</sup> played by iron in the body's response to exercise stress has provided a clearer understanding of the importance of adequate iron nutriture<sup>3</sup> for the athlete<sup>4</sup>.

Physical activity lasting<sup>5</sup> more than several minutes is dependent<sup>6</sup> on an adequate supply of oxygen to exercising muscle for the energy derived<sup>7</sup> from aerobic<sup>8</sup> metabolism. It is no surprise, then, that anemia resulting from iron deficiency can profoundly<sup>9</sup> impair exercise performance<sup>10</sup>. This effect of reducing<sup>11</sup> work capacity<sup>12</sup> along with reduction in maximal oxygen uptake<sup>13</sup> has repeatedly been documented in both animal and human studies. Although it might be supposed that lowered oxygen content<sup>14</sup> of the blood is responsible<sup>15</sup>, other factors are also important. For instance<sup>16</sup>, lowered blood viscosity and decreased systemic vascular resistance increase resting cardiac output in the anaemic levels of 11.0 mic subject, limiting<sup>17</sup> cardiac reserve with exercise. Even small reduction in hemoglobin concentration can significantly<sup>18</sup> impair exercise performance.

۱- شناسایی / ۲- نقش‌ها

۳- مواد مغذی

۴- ورزشکار

۵- طول کشیدن

۶- بستگی داشتن / ۷- گرفته شده

۸- هوازی

۹- عمیقاً / ۱۰- عملکرد

۱۱- کاهش

۱۲- ظرفیت

۱۳- برداشت / ۱۴- محتوا

۱۵- مسئول / ۱۶- به عنوان مثال

۱۷- محدود کردن

۱۸- قابل توجه

۱. According to this passage .....

- ۱) Extreme tiredness bears no relationship with iron deficiency
- ۲) The importance of adequate iron nutriture for the athlete is suspected
- ۳) There is an association between physical activity and physical capacity
- ۴) Iron plays an important function in the capacity development

(Bears: دارا بودن)

۲. The increased resting cardiac output is due to .....

- ۱) Diminished blood viscosity
- ۲) Increased systemic vascular resistance
- ۳) Increased oxygen intake
- ۴) The performance of a definite exercise

(Diminish: کاهش / Definite: قطعی)

۳. Exercise performance may be impaired by .....

- ۱) Continuing activity more than several minutes
- ۲) Decrease in haemoglobin concentration
- ۳) Adequate supply of oxygen
- ۴) Energy from aerobic metabolism

Answers: ۱. D / ۲. A / ۳. B



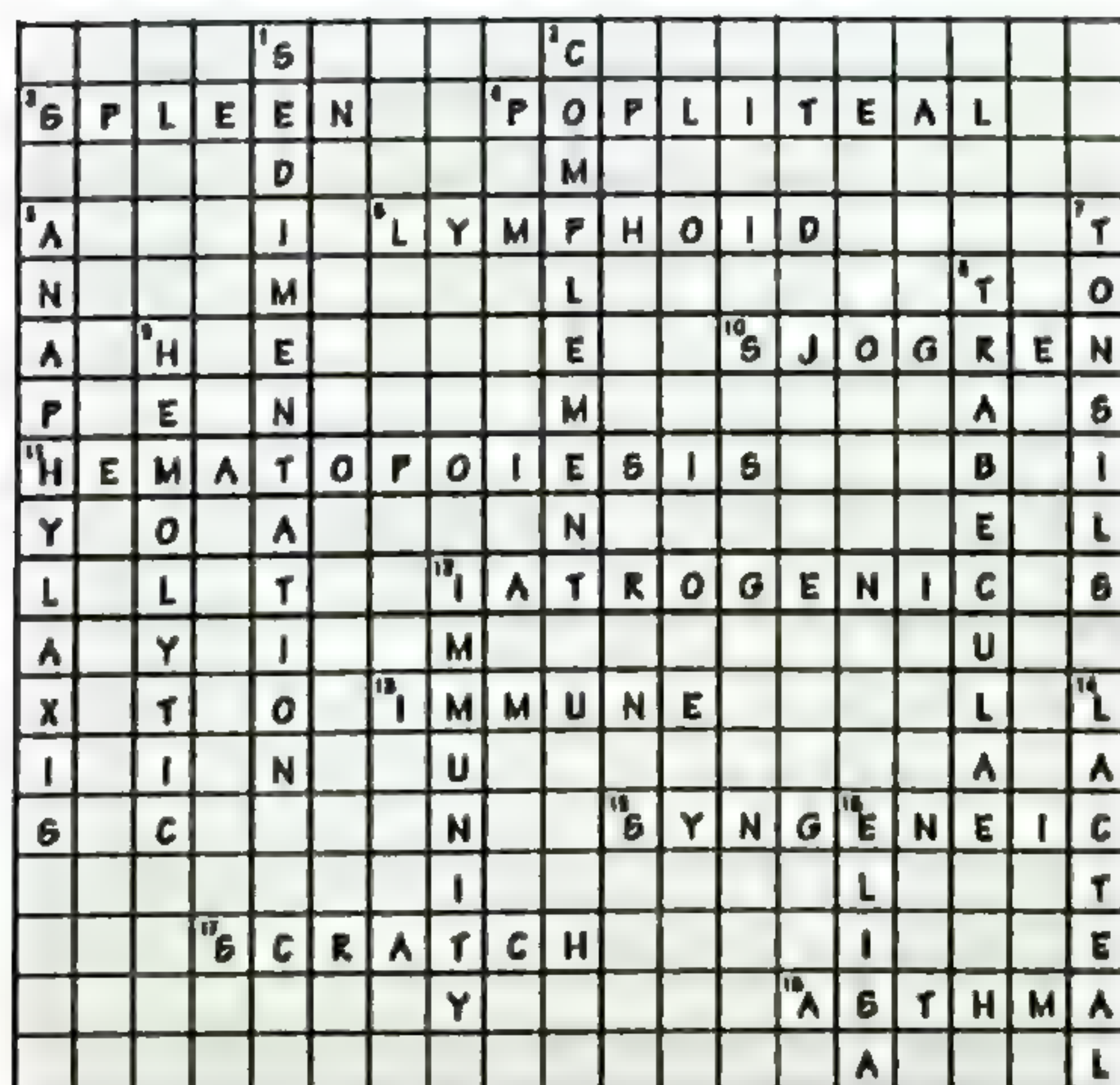
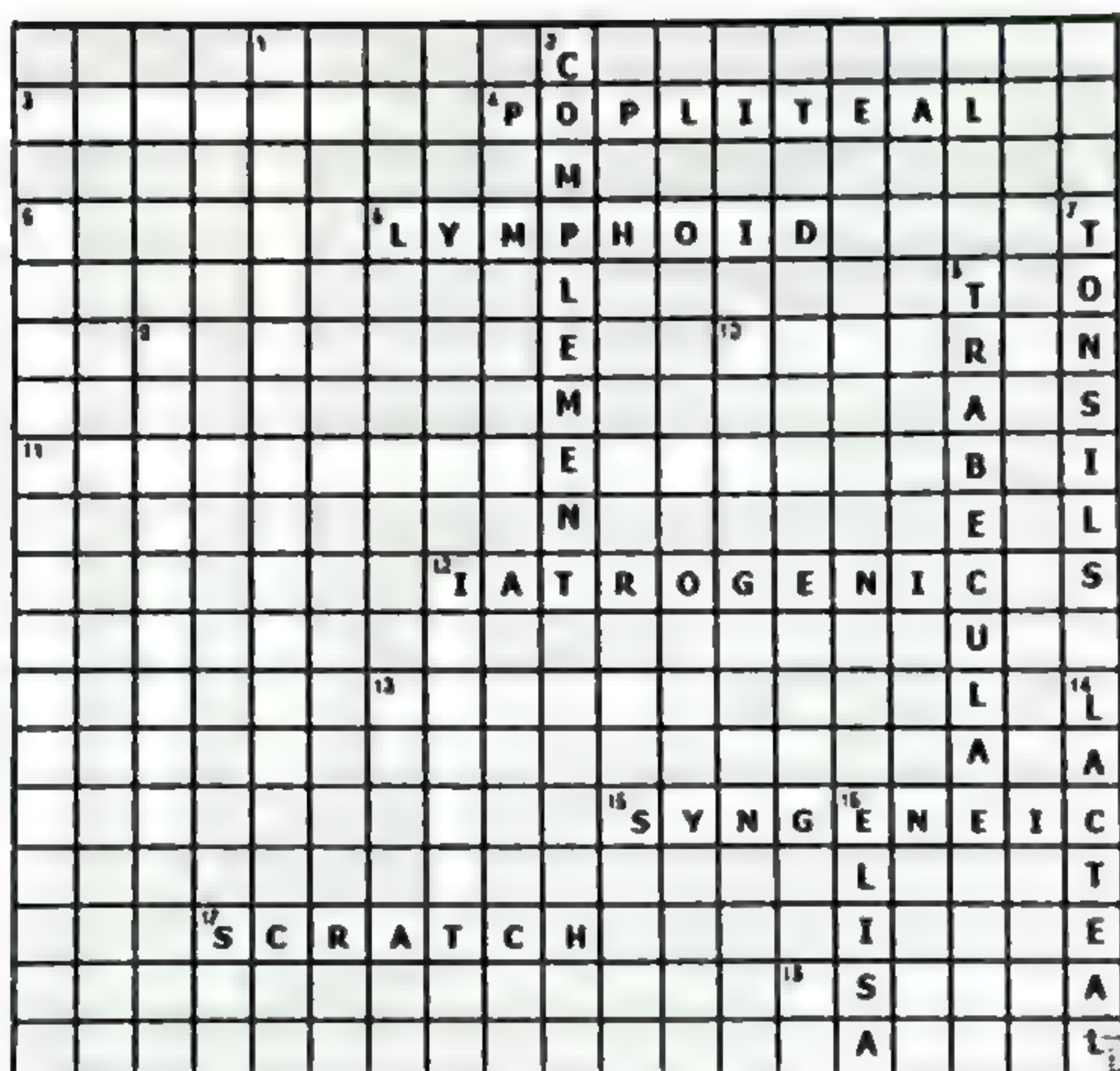
اینم جهت ایجاد انگیزه در تو که این فصل رو تموم کردی! به جدول با موضوع همین فصل!

### Across

۱. The largest structure of the lymphatic system
۲. Term indicating location behind the knee
۳. Term used to refer to immune system organs and tissues
۴. Eponym for the second most common autoimmune rheumatoid disorder
۵. Process by which stem cells develop into blood cells or immune system cells
۶. Immunodeficiency introduced by a medical treatment
۷. Response activated by microorganisms
۸. The type of transplant of marrow between identical twins
۹. Tests that introduce allergens to the skin using a special tool, with results examined 30 to 40 minutes later.
۱۰. A chronic, reactive airway disorder

### Down

۱. The "S" in ESR
۲. A group of 20 protein compounds that activate to destroy invading cells
۳. Exaggerated systemic reaction of the immune system
۴. Masses of lymphatic tissue located at the back of the mouth and throat
۵. Bands of connective tissue
۶. Reactions that follow transfusion of mismatched blood
۷. The body's capacity to resist invading organisms and toxins
۸. Lymphatic vessel located in the small intestine
۹. Acronym for test that identifies antibodies to bacteria, among others



اینم جوابش:





## دستگاه تنفسی Respiratory System

## فصل ۹ Unit 9

این درس راجع به دستگاه تنفسی هست که میخوایم باز ساختار و عملکرد و همچنین بیماری‌هایش رو به دور دوره کنیم. هم فاله هم تماشا!

### ❖ بررسی دستگاه تنفسی از نظر ساختاری و عملکردی:

#### ■ INTRODUCTION

The main function of the respiratory system is to provide oxygen to body cells for energy metabolism and to eliminate<sup>1</sup> carbon dioxide, a byproduct of metabolism. Because these gases must be carried to and from the cells in the blood, the respiratory system works closely with the cardiovascular system to accomplish<sup>2</sup> gas exchange<sup>3</sup>. This activity has two phases:

- External<sup>4</sup> gas exchange occurs between the outside atmosphere and the blood.
- Internal<sup>5</sup> gas exchange occurs between the blood and the tissues.

External exchange takes place in the lungs, located in the thoracic cavity<sup>6</sup>. The remainder of the respiratory tract consists of a series of passageways that conduct air to and from the lungs. No gas exchange occurs in these regions.

#### ■ UPPER RESPIRATORY PASSAGEWAYS

The upper respiratory passageways consist of the nose and pharynx (throat). Air can also be exchanged through the mouth, but there are fewer mechanisms for cleansing<sup>1</sup> the air taken in by this route<sup>2</sup>.

##### • The Nose

Air enters through the nose, where it is warmed, filtered, and moistened<sup>1</sup> as it passes over the hair-covered<sup>2</sup> mucous membranes of the nasal cavity. Cilia<sup>3</sup>—microscopic hair-like projections from the cells that line the nasal passageways—sweep<sup>4</sup> dirt and foreign material toward the throat for elimination. Material that is eliminated from the respiratory tract by coughing or clearing the throat is called sputum<sup>5</sup>.

In the bones of the skull and face near the nose are air-filled cavities lined with a mucous membrane that drain into the nasal cavity. These chambers lighten<sup>6</sup> the bones and provide resonance for speech production. These cavities, called sinuses, are named specifically for the bones in which they are located, such as the frontal, sphenoidal, ethmoidal, and maxillary sinuses. Together, because they are near the nose, these cavities are referred to as the paranasal sinuses.

##### • The Pharynx

Inhaled<sup>1</sup> air passes into the throat, or pharynx<sup>2</sup>, where it mixes with air that enters through the mouth and also with food destined for the digestive tract. The pharynx is divided into three regions:

- The nasopharynx is the superior portion located behind the nasal cavity.
- The oropharynx is the middle portion located behind the mouth.
- The laryngopharynx is the inferior portion located behind the larynx.

۱- حذف

۲- به انجام رساندن

۳- تبادل گاز

۴- خارجی

۵- داخلی

۶- حفره

۱- پاکسازی

۲- مسیر

۱- مرطوب شدن

۲- با پوشش مو

۳- مژک‌ها

۴- جارو کردن

۵- خلط

۶- سبک کردن

۱- استنشاق شده

۲- حلق



## ■ LOWER RESPIRATORY PASSAGEWAYS AND LUNGS

Air moves from the pharynx into the larynx<sup>۱</sup>, commonly called the voice box, because it contains the vocal folds<sup>۲</sup>, or cords<sup>۳</sup>. The larynx is at the top of the trachea, commonly called the windpipe<sup>۴</sup>, which conducts air into the bronchial system toward the lungs.

### • The Larynx

The larynx is shaped by nine cartilages<sup>۱</sup>, the most prominent<sup>۲</sup> of which is the anterior thyroid cartilage that forms the "Adam's apple". The small leaf-shaped cartilage at the top of the larynx is the epiglottis. When one swallows, the epiglottis covers the opening of the larynx and helps to prevent food from entering the respiratory tract.

The larynx contains the vocal folds, bands of tissue that are important in speech production. Vibrations<sup>۳</sup> produced by air passing over the vocal folds form the basis for voice production, although portions of the throat and mouth are needed for proper<sup>۴</sup> speech articulation<sup>۵</sup>. The opening between the vocal folds is the glottis (the epiglottis is above the glottis).

### • The Trachea

The trachea is a tube reinforced with C-shaped rings of cartilage to prevent its collapse<sup>۱</sup>. Cilia in the trachea's lining move impurities<sup>۲</sup> up toward the throat, where they can be eliminated by swallowing or by expectoration<sup>۳</sup>, coughing them up.

The trachea is contained in a region known as the mediastinum, which consists of the space between the lungs together with the organs contained in this space. In addition to the trachea, the mediastinum contains the heart, esophagus, large vessels, and other tissues.

### • The Bronchial System

At its lower end, the trachea divides into a right and a left primary bronchus, which enter the lungs. The right bronchus is shorter and wider<sup>۱</sup>; They divide into secondary bronchi (*plural of bronchus*). Further<sup>۲</sup> divisions<sup>۳</sup> produce an increasing number of smaller tubes that supply air to smaller subdivisions of lung tissue. As the air passageways progress through the lungs, the cartilage in the walls gradually disappears and is replaced by smooth (involuntary<sup>۴</sup>) muscle.

The smallest of the conducting tubes, the bronchioles, carry air into the microscopic air sacs, the alveoli, through which gases are exchanged between the lungs and the blood. It is through the ultrathin walls of the alveoli and their surrounding capillaries that oxygen diffuses<sup>۵</sup> into the blood and carbon dioxide diffuses out of the blood for elimination.

### • The Lungs

The cone-shaped lungs occupy<sup>۱</sup> the major portion of the thoracic cavity. The right lung is larger and divided into three lobes. The left lung, which is smaller to accommodate<sup>۲</sup> the heart, is divided into two lobes. The lobes are further subdivided to correspond<sup>۳</sup> to divisions of the bronchial network.

A double membrane, the pleura, covers the lungs and lines the thoracic cavity. There are two pleural layers. The very narrow, fluid-filled space between the two layers is the pleural space. The moist pleural membranes slide<sup>۴</sup> easily over each other within the chest cavity, allowing the lungs to expand<sup>۵</sup> during breathing.

۱- حنجره / ۲- چین‌های صوتی

۳- طناب‌ها / ۴- نای، لوله هوا

۱- غضروف

۲- برجسته

۳- ارتعاشات

۴- صحیح

۵- تکلم

۱- فروپاشی

۲- ناخالصی

۳- خلط

۱- پهن‌تر

۲- بیشتر

۳- تقسیمات

۴- غیرارادی

۵- منتشر شدن

۱- اشغال کردن

۲- جا دادن

۳- مطابق

۴- لیز خوردن

۵- متسع شدن



## ■ BREATHING

Air is moved into and out of the lungs by the process of breathing, technically called **pulmonary ventilation**<sup>1</sup>. This consists of a steady<sup>2</sup> cycle of **inspiration** (inhalation<sup>3</sup>) and **expiration** (exhalation<sup>4</sup>), separated by a period of rest. Breathing is normally regulated unconsciously<sup>5</sup> by centers in the brainstem. These centers adjust the rate and rhythm of breathing according<sup>6</sup> to changes in the blood composition<sup>7</sup>, especially the concentration of carbon dioxide.

The measure of how easily the lungs expand under pressure is **compliance**<sup>8</sup>. Fluid produced in the lungs, known as **surfactant**, aids in compliance by reducing surface tension<sup>9</sup> within the alveoli.

## ■ GAS TRANSPORT

Oxygen is carried in the blood bound<sup>1</sup> to **hemoglobin** in red blood cells. The oxygen is released to the cells as needed. Carbon dioxide is carried in several ways but is mostly converted<sup>2</sup> to **carbonic acid**. The amount of carbon dioxide that is exhaled is important in regulating the blood's acidity or alkalinity, based on the amount of carbonic acid that is formed. Dangerous shifts<sup>3</sup> in blood pH can result from exhalation of too much or too little carbon dioxide.

۱- تهویه

۲- مداوم

۳- دم / ۴- بازدم

۵- به طور ناخودآگاه

۶- با توجه به / ۷- ترکیب

۸- ظرفیت

۹- کشش سطحی

۱- متصل شدن

۲- تبدیل شدن

۳- تغییر

حالا هم به سری سافیکس (پسوند) و روت (ریشه) راجع به سیستم تنفس بخونیم ببینیم چه خبره.

Root or Suffix	Meaning	Example	Definition of Example
-pnea	breathing (تنفس)	dyspnea (دیس پنه)	تنگی نفس، درد یا دشواری در تنفس
-oxia	level of oxygen (سطح اکسیژن)	hypoxia (هایپوکسی)	کاهش میزان اکسیژن بافت‌ها
-capnia	level of carbon dioxide (سطح کربن دی‌اکسید)	hypocapnia (هایپوکپنیا)	کاهش کربن دی‌اکسید بافت‌ها
-phonia	voice (صدا)	aphonia (آفونیا)	از دست دادن صدا
nas/o	nose (بینی)	intranasal (اینترانازال)	درون بینی
rhin/o	nose (بینی)	rhinoplasty (رینوپلاستی)	ترمیم (plasty) بینی
laryng/o	larynx (حنجره)	laryngospasm (لارینگواسپاسم)	اسپاسم (انقباض ناگهانی) حنجره
trache/o	trachea (نای)	tracheotome (تراکتوتوم)	ابزاری جهت برش در نای
bronch/o, bronchi	bronchus (نایژه)	bronchogenic (برونکوزنیک)	ناشی از برونش
bronchiol	bronchiole (نایژک)	bronchiolectasis (برونشیولکتازی)	اتساع (ectasis-) برونشیول‌ها



Root	Meaning	Example	Definition of Example
phren/o	دیاپراگم	phrenic (فرنیک)	مربوط به دیاپراگم
phrenic/o	عصب فرنیک	phrenicectomy (فرنیککتومی)	برداشت بخشی از عصب فرنیک
pleur/o	پلور، پرده جنب	pleurodesis (پلورودسیس)	جوش خوردن یا ادغام پلور
pulm/o, pulmon/o	ریه	extrapulmonary (اکستراپولمونری)	خارج از ریه‌ها
pneumon/o	ریه	pneumonitis (پنومونیتیس)	التهاب ریه، پنومونی
pneum/o, pneumat/o	هوا، گاز ریه، تنفس	pneumothorax (پنوموتوراکس)	وجود هوا در قفسه سینه
spir/o	تنفس	spirometer (اسپیرومتر)	ابزاری برای اندازه گیری حجم‌های تنفسی

١٠٠. breathing difficulty that is relieved by assuming an upright position (ortho-)	١٠١. Pain (-algia) in the pleura
١٠١. slow (brady-) rate of breathing easy	١٠٢. Space between the lungs
١٠٢. normal (eu-) breathing	١٠٣. Substance that reduce surface tension
١٠٣. painful or difficult breathing	١٠٤. Sputum
١٠٤. discharge (-rrhea) from the nose	١٠٥. The trachea divides into a right and a left primary _____
	١٠٦. Plural of the bronchus is _____
	١٠٧. A tube placed within the trachea

سخت که نبود؟ قشنگ رو این مبحث مسلط شدی هرچی بهت بدن دیگه میتونی جواب بدی.

1) Bronchuses  
 2) Bronchi  
 3) Bronchae  
 4) Broncha



### ۳- سرفه‌های بلند



## • Pneumonia

Pneumonia is caused by many different microorganisms, usually bacteria or viruses.

Viral pneumonia is more diffuse. There are two forms of pneumonia:

Lobar pneumonia, an acute disease, involves one or more lobes of the lung. Bronchopneumonia (bronchial pneumonia) occurs throughout the lung. It begins in terminal bronchioles that become clogged<sup>1</sup> with exudate<sup>2</sup> and form consolidated<sup>3</sup> (solidified) patches.

Pneumonia can usually be treated successfully in otherwise healthy people, but in debilitated<sup>4</sup> patients, it is a leading cause of death. Immunocompromised<sup>5</sup> patients, such as those with AIDS, are often subject to a form of fungal pneumonia called *Pneumocystis pneumonia* (PCP).

The term *pneumonia* is also applied<sup>6</sup> to noninfectious lung inflammation, such as that caused by asthma, allergy, or inhalation of irritants<sup>7</sup>. In these cases, however, the more general term *pneumonitis* is often used.

## • Tuberculosis

The incidence of tuberculosis (TB) has increased in recent years, along with the increase of AIDS and the appearance<sup>1</sup> of antibiotic resistance in the causative<sup>2</sup> organism, *Mycobacterium tuberculosis* (MTB). The name tuberculosis comes from the small lesions, or tubercles, that characterize<sup>3</sup> the infection. The tubercles can liquefy<sup>4</sup> in the center and then rupture to release bacteria into the bloodstream. Generalized TB is known as miliary<sup>5</sup> tuberculosis because of the many tubercles that are the size of millet<sup>6</sup> seeds in infected tissue.

TB symptoms include fever, weight loss, weakness, cough, and hemoptysis<sup>7</sup>, the coughing up of blood-containing sputum. Accumulation of exudate in the alveoli may result in consolidation of lung tissue. Active TB is diagnosed by chest x-ray and laboratory culture of sputum samples to isolate, stain<sup>8</sup>, and identify any causative organisms. If found, the organisms can be tested for drug susceptibility<sup>9</sup>. These laboratory studies can take up to eight weeks, as the TB organism is very slow-growing, so clinicians also use several quick tests to identify tuberculosis infections.

## • Influenza

Influenza ("flu") is a viral respiratory disease associated with chills<sup>1</sup>, fever, headaches, muscular aches<sup>2</sup>, and cold-like symptoms. It usually resolves in several days, but severe forms of influenza have caused fatal<sup>3</sup> pandemics, most recently in 1918, 1957, and 1968. The virus can mutate<sup>4</sup> readily and spread among animals, such as birds or pigs, and humans.

Because influenza viruses change so rapidly, scientists must prepare vaccines against the strains<sup>5</sup> most likely to cause an epidemic in any given year. The virus strains are grouped into categories A to C, with A the most severe and C the least. They are further designated H and N with numbers, such as H3N2 and H5N1. The "H" and "N" represent surface proteins that the virus uses to infect a host.

Medical personnel combat influenza with vaccines, isolation of infected populations, destruction of infected animals, and antiviral medications.

## ■ EMPHYSEMA

Emphysema is a chronic disease associated with overexpansion and destruction of the alveoli. Common causes are exposure<sup>1</sup> to cigarette smoke and other forms of pollution as well as chronic infection. Emphysema is the main disorder included under the heading of chronic obstructive pulmonary disease (COPD). Other condition included in this category is chronic bronchitis.

۱- مسدود شدن

۲- اگزوا، ترشح التهابی

۳- متراکم

۴- ناتوان، ضعیف

۵- دارای ضعف ایمنی

۶- به کار برده شدن، استفاده شدن

۷- محرک‌های آزارنده

۱- ظهور

۲- عامل

۳- مشخص شدن، دارای ویژگی

۴- مایع شدن

۵- ارزنی

۶- ارزن

۷- خلط خونی

۸- رنگ آمیزی

۹- مستعد بودن، حساس بودن

۱- لرز

۲- درد

۳- کشنده

۴- جهش یافتن

۵- سوش، گونه

۱- در معرض بودن





## ■ ASTHMA

Asthma attacks result from narrowing of the bronchial tubes. This constriction, along with edema (swelling) of the bronchial linings, inflammation, and mucus accumulation, results in wheezing, extreme **dyspnea** (difficulty in breathing), and **cyanosis** (Bluish discoloration of the skin caused by lack of oxygen in the blood).

Asthma is most common in children. Although its causes are uncertain, a main factor is irritation caused by allergy. Heredity<sup>1</sup> may also play a role. Treatment of asthma includes:

1. removal of allergens
2. administration of bronchodilators<sup>2</sup> to widen<sup>3</sup> the airways
3. administration<sup>4</sup> of corticosteroids to reduce inflammation

## ■ PNEUMOCONIOSIS

Chronic irritation and inflammation caused by dust inhalation is termed **pneumoconiosis**. This is an occupational hazard<sup>1</sup> seen mainly in people working in mining<sup>2</sup> and stone-working industries<sup>3</sup>. Different forms of pneumoconiosis are named for the specific type of dust inhaled: silicosis (silica or quartz), anthracosis (coal dust), and asbestosis (asbestos fibers).

## ■ LUNG CANCER

Lung cancer is the leading cause of cancer-related deaths in both men and women. The incidence of lung cancer has increased steadily<sup>1</sup> over the past 50 years, especially in women. Cigarette smoking is a major risk factor in this as well as other types of cancer. The most common form of lung cancer is squamous carcinoma, originating in the lining<sup>2</sup> of the bronchi (bronchogenic). Lung cancer usually cannot be detected early, and it metastasizes rapidly. The overall<sup>3</sup> long-term<sup>4</sup> survival<sup>5</sup> rate is low.

## ■ RESPIRATORY DISTRESS SYNDROME

Respiratory distress syndrome (RDS) of the newborn occurs in premature<sup>1</sup> infants and is the most common cause of death in this group. It results from a lack of lung surfactant, which reduces compliance. **Acute respiratory distress<sup>2</sup> syndrome (ARDS)**, also known as *shock lung*, may result from trauma, allergic reactions, infection (Like COVID-19), and other causes. It involves edema that can lead to respiratory failure and death if untreated<sup>3</sup>.

## ■ PLEURAL DISORDERS

**Pleurisy** (پلورزی), also called pleuritis, is an inflammation of the pleura, usually associated with infection. Pain is the common symptom of pleurisy. Because this pain is intensified<sup>1</sup> by breathing or coughing as the inflamed membranes move, breathing becomes rapid and shallow<sup>2</sup>. Analgesics and anti-inflammatory drugs are used to treat the symptoms of pleurisy.

As a result of injury, infection, or weakness in the pleural membrane, substances may accumulate between the layers of the pleura. When air or gas collects in this space, the condition is termed pneumothorax. Compression<sup>3</sup> may cause collapse of the lung, termed atelectasis.

In **pleural effusion**, other materials accumulate in the pleural space. Depending on the substance involved, these are described as **empyema** (pus<sup>4</sup>), also termed **pyothorax**; **hemothorax** (blood); or **hydrothorax** (fluid). Causes of these conditions include injury, infection, heart failure, and pulmonary embolism. **Thoracentesis**, needle puncture<sup>5</sup> of the chest to remove fluids, or fusion<sup>6</sup> of the pleural membranes (pleurodesis) may be required. A chest tube may be inserted to remove air and fluid from the pleural space.

۱- ارث

۲- متسع کننده‌ی برونش

۳- گشاد کردن، باز کردن

۴- تجویز

۱- خطر شغلی

۲- معدن کاری

۳- صنایع، کارخانه‌ها

۱- مداوم

۲- پوشش

۳- کلی

۴- طولانی مدت

۵- بقا

۱- نارس

۲- زجر تنفسی

۳- درمان نشده

۱- تشدید شدن

۲- کم عمق

۳- فشار

۴- چرک

۵- سوراخ کردن

۶- ادغام شدن



یه دونه به هم وصل کنید حل کن حالت جا بیادا تعریفهای توی این تمرین ها هم مهمه ها!!!! میتونه سوال علوم پایه ارزش طرح شه!

- |                    |   |
|--------------------|---|
| ___ ۱. Atelectasis | ۱). pulmonary disease with destruction of alveoli |
| ___ ۲. Emphysema   | ۲). Increased carbon dioxide in the blood         |
| ___ ۳. Hypercapnia | ۳). decreased rate and depth of breathing         |
| ___ ۴. Hypopnea    | ۴). whooping cough                                |
| ___ ۵. Pertussis   | ۵). Incomplete expansion of lung tissue           |

Answer: ۱. E / ۲. A / ۳. B / ۴. C / ۵. D

اینم باز یه سری تست از همین مبحثا میخوام بهت ارزش این متن ها رو نشون بدم!

۱. Lack of oxygen due to insufficiency of respiratory tract causes changes in skin coloration. What is called this condition?

- ۱) Hypoxia
- ۲) Hypoxemia
- ۳) Cyanosis
- ۴) Erythema

پزشکی قلبی

۲. Inhaling a foreign substance into the upper respiratory tract can cause ..... pneumonia.

- ۱) inhalation
- ۲) aspiration
- ۳) inspiration
- ۴) respiration

پزشکی قلبی

۳. In addition to antibiotics, several mechanical techniques are used to dislodge sputum and ..... its expectoration.

- ۱) flout
- ۲) encourage
- ۳) perforate
- ۴) clench

میان دوری کشور - آذر ۹۷

(flout: توهین کردن / encourage: تقویت کردن)  
(perforate: سوراخ کردن، clench: گره، انقباض)

۴. "Hemoptysis" is a condition that can be defined as .....

- ۱) Drooping eyelids
- ۲) Spitting of blood
- ۳) Blue nail beds
- ۴) Discoloration of skin

پزشکی قلبی

۵. Plants can help reduce the ..... of respiratory diseases as well as lung cancer.

- ۱) commitment
- ۲) assurance
- ۳) incidence
- ۴) consensus

پزشکی قلبی

(commitment: تعهد / assurance: تضمین / consensus: توافق)

۶. An inflammation of the voice box that is most often caused by respiratory infection or irritants such as cigarette smoke is referred to as .....

- ۱) Pharyngitis
- ۲) Cholecystitis
- ۳) Bronchitis
- ۴) Laryngitis

پزشکی قلبی

۷. Pleural ..... is an abnormal accumulation of fluid in the chest or on the lungs.

- ۱) Effusion
- ۲) Perfusion
- ۳) Infusion
- ۴) Profusion

پزشکی قلبی

۸. A chronic pulmonary disease characterized by enlargement and destruction of the alveoli is called:

- ۱) Emphysema
- ۲) Pneumothorax
- ۳) Pneumoconiosis
- ۴) Cystic fibrosis

پزشکی قلبی

(Perfusion: تزریق کردن / Infusion: تزریق، خیساندن / Profusion:

فراوانی)



۱. A disease caused by inhaling dust particles, including coal dust, stone dust, iron dust and asbestos particles is referred to as .....

- ۱) pneumoconiosis      ۲) epistaxis  
۳) rhonchus      ۴) atelectasis

۲. A collection of pus in the space between the lung and the inner surface of the chest wall is called.....

- ۱) Glycosuria      ۲) emphysema  
۳) myxedema      ۴) empyema

۳. Congenital ..... can result from a failure of the lungs to expand completely.

- ۱) atelencephalia  
۲) pulmolith  
۳) tracheotomy  
۴) atelectasis

۴. He was coughing up blood. His physician explained that this condition, called ....., is a sign of a serious lung disorder.

- ۱) anosmia      ۲) hemoptysis  
۳) anemia      ۴) dyspnea

۱. The presence of the air in the thorax is termed .....

- ۱) pneumonitis      ۲) pneumothorax  
۳) thoracocentesis      ۴) thoracostomy

۲. Pleural effusions may occur as part of the general process of fluid ..... Accompanying cardiac failure.

- ۱) retention      ۲) detection  
۳) protection      ۴) induction

(detection: شناسایی / protection: محافظت / induction: القا)

۳. Parents should be encouraged to protect their children from all factors which might possibly.....an asthma attack.

- ۱) pretend      ۲) preserve  
۳) provoke      ۴) prefer

(pretend: تظاهر کردن / preserve: حفظ کردن)

(provoke: تحریک کردن / prefer: ترجیح دادن)

۴. Because of symptomatic gallstones, ..... is the recommended treatment for the patient to remove the gall bladder surgically.

- ۱) cholecystectomy      ۲) cholecystostomy  
۳) cystectomy      ۴) cystostomy

Answers: ۱. C / ۲. B / ۳. B / ۴. B / ۵. C / ۶. D / ۷. A / ۸. A / ۹. A / ۱۰. B / ۱۱. D / ۱۲. A / ۱۳. D / ۱۴. C / ۱۵. B / ۱۶. A

اینم به متن ریوی از «پزشکی قطبی» با موضوع آسم. بزن ببین چطوریه!

Asthma is a syndrome characterized by airflow obstruction that varies markedly<sup>1</sup>, both spontaneously and with treatment. Asthmatics harbor<sup>2</sup> special type of inflammation in the airways that makes them more responsive<sup>3</sup> than non-asthmatics to a wide range of triggers<sup>4</sup>, leading to excessive narrowing with consequent<sup>5</sup> reduced airflow and symptomatic wheezing and dyspnea. Narrowing of the airways is usually reversible<sup>6</sup>, but in some patients with chronic asthma there may be an element of irreversible airflow obstruction. The increasing global prevalence<sup>7</sup> of asthma, the large burden<sup>8</sup> it now imposes<sup>9</sup> on patients, and the high health care costs have led to extensive<sup>10</sup> research into its mechanisms and treatment.

Asthma in one of the most common chronic diseases globally and currently affects ~ 300 million people. The prevalence of asthma has risen in affluent<sup>11</sup> countries over the last 30 years but now appears to have stabilized, with ~ 10- 12% of adults and 15 % of children affected by the disease. In developing countries where the prevalence of asthma had been much lower there is a rising incidence that appears to be associated with increased urbanization<sup>12</sup>. The prevalence of atopy and other allergic diseases has also increased over the same time, suggesting that the reasons for the increase are likely to be systemic rather than confined<sup>13</sup> to the lungs. This epidemiologic observation suggests that there is a maximum number of individuals in the community<sup>14</sup> who are liable<sup>15</sup> to be effected by asthma, likely by genetic predisposition<sup>16</sup>.

۱- قابل توجه

۲- پناه دادن، داشتن

۳- واکنشی، پاسخگو / ۴- محرک‌ها

۵- متعاقب / ۶- برگشت پذیر

۷- شیوع

۸- بار

۹- تحمیل کردن

۱۰- وسیع

۱۱- ثروتمند

۱۲- شهری شدن

۱۳- محدود شدن

۱۴- جامعه

۱۵- محتمل به

۱۶- استعداد ژنتیکی



۱. What is meant by the sentence below:

"... The reasons for the increase are likely to be systemic rather than confined to the lungs."

- ۱) The reason is probably a systematic one
- ۲) The reason may be related to the lungs
- ۳) The reason is probably limited to the lungs
- ۴) The reason may be both systematic and related to the lungs

۲. According to the text .....

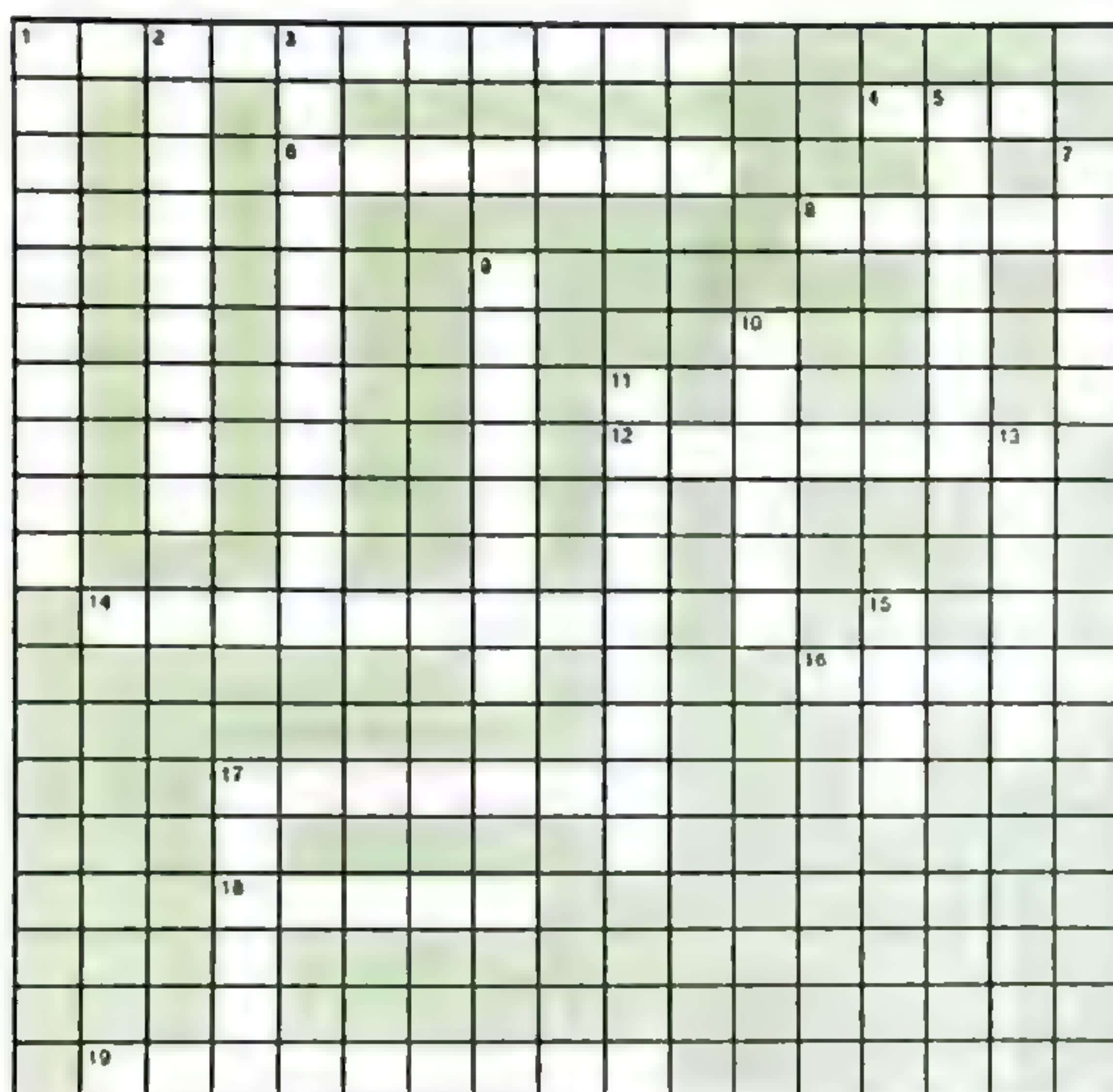
- ۱) Rich nations have the largest number of asthmatics.
- ۲) Poor nations have the largest number of asthmatics.
- ۳) In developing countries, the number of asthmatics is decreasing.
- ۴) Asthma seems to be related to urbanization.

۳. The word "harbor" in the text means .....

- ۱) Show
- ۲) Indicate
- ۳) Have
- ۴) Shelter

Answers: ۱. A / ۲. D / ۳. C

ایتم به بازی از این مبحث که هم دوره لغت واست باشه و هم استراحت کنی!



### Across

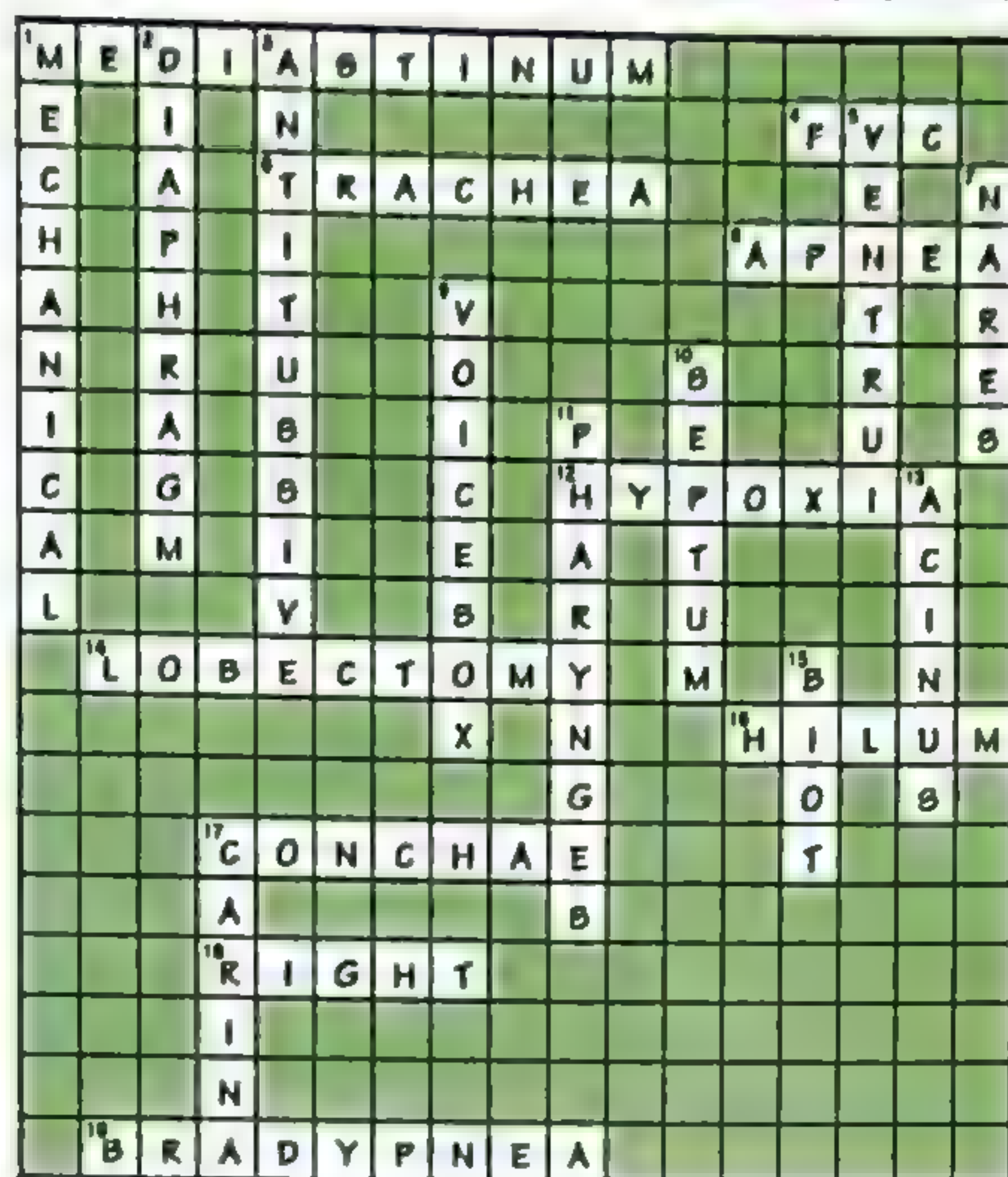
- ۱. Space between the lungs
- ۲. Acronym for volume of air that can be exhaled after maximum inspiration (Answer: FVC)
- ۳. Another word for windpipe
- ۴. Absence of breathing
- ۵. Deficiency of O<sub>2</sub> at a cellular level
- ۶. Surgical excision of a lung lobe
- ۷. Slit on the lungs' medial surface (شکافی که در سطح داخلی ریه هست، ناف ریه)
- ۸. Bony structures that form the posterior walls of the nasal passages
- ۹. The lung that's shorter, broader, and larger than the other
- ۱۰. Unusually slow, regular respirations

### Down

- ۱. Type of ventilation that uses a positive-pressure system
- ۲. Most important muscle for respiration
- ۳. Drug type that acts to suppress cough
- ۴. Eponym for a mask designed to deliver a high-flow, precise O<sub>2</sub> mixture (Answer: VENTURI)
- ۵. Another word for nostrils (سوراخ بینی)
- ۶. Another word for larynx
- ۷. The respiratory system structure that separates the nasal passages
- ۸. Plural form of pharynx
- ۹. Chief respiratory unit for gas exchange
- ۱۰. Eponym for respirations characterized by irregular periods of apnea alternating with four or five breaths of the same depth (Answer: BIOT)
- ۱۱. Another word for tracheal bifurcation



اینم خوبه یاد بگیری که Acronym به کلمات مخفف میگن مثلاً FVC مخفف capacity vital هست. و Eponym به کلماتی میگن که از اسم یه نفر گرفته شده و اسم یه نفر رو یه چیزی گذاشتن. پاسخ جدول هم اینه:



این بازی رو هم برو. باید کلمات رو بنویسی بعد حروف داخل دایره‌ها رو کنار هم بذاری تا به جواب سوال برسی!!

1. \_\_\_\_\_ ○ \_\_\_\_\_

2. \_\_\_\_\_ ○ \_\_\_\_\_

3. \_\_\_\_\_ ○ \_\_\_\_\_

4. \_\_\_\_\_ ○ \_\_\_\_\_

5. \_\_\_\_\_ ○ \_\_\_\_\_

- 1. The Greek word for *breath, spirit, or wind*
- 2. Sudden, forceful, involuntary contraction of the smooth muscle of the bronchi
- 3. Small, hairlike projections in the trachea
- 4. The latin word for *lung*
- 5. The Greek word for *throat*



پاسخ:

شما احتمالا از طریق درب وارد فوننه میشین. ولی دوستای من (ریه‌ها) اجازه میدن که عروق فوننی و نایزده‌های اصلی از طریق پی وارد ریه بشن؟

۱. Pneuma; ۲. Bronchospasm; ۳. Cilia; ۴. Pulmo; ۵. Pharynx

Answer to puzzle: Hilum



رسیدیم به یه درس شیرین که اونم چیزی نیست جز..... دستگاه گوارش! کلی لغت اینجا یاد میگیری! برو ببینم چه میکنی!

❖ بررسی دستگاه گوارش از نظر ساختاری و عملکردی:

## ■ INTRODUCTION

The function of the digestive system is to prepare food for intake<sup>1</sup> by body cells. Nutrients must be broken down<sup>2</sup> by mechanical and chemical means<sup>3</sup> into molecules that are small enough to be absorbed<sup>4</sup> into circulation. Within<sup>5</sup> cells, the nutrients are used for energy and for rebuilding<sup>6</sup> vital<sup>7</sup> cell components. The digestive system also stores<sup>8</sup> undigested waste materials and then eliminates them from the body.

- ۱- برداشت / ۲- تجزیه شدن
- ۳- فرایندها / ۴- جذب شدن
- ۵- درون / ۶- بازسازی
- ۷- حیاتی / ۸- ذخیره کردن

## ■ DIGESTION

Digestion takes place<sup>1</sup> in the digestive tract proper, which extends from the mouth to the anus. Peristalsis<sup>2</sup>, wave-like contractions<sup>3</sup> of the organ walls, moves food through the digestive tract and also moves undigested waste material out of the body. Also contributing<sup>4</sup> to digestion are several accessory<sup>5</sup> organs that release<sup>6</sup> secretions<sup>7</sup> into the digestive tract. Enzymes are needed throughout the digestive process. These compounds are organic catalysts<sup>8</sup> that speed the rate of food's chemical breakdown. The names of most enzymes can be recognized by the ending -ase.

- ۱- رخ دادن / ۲- حرکات دودی
- ۳- انقباضات / ۴- مشارکت داشتن
- ۵- فرعی / ۶- آزاد کردن
- ۷- ترشحات
- ۸- کاتالیزور

## ■ THE DIGESTIVE TRACT

The digestive tract, also known as the alimentary<sup>1</sup> canal or gastrointestinal (GI) tract, is essentially<sup>2</sup> a long tube modified<sup>3</sup> into separate organs with special<sup>4</sup> functions. A large serous membrane, the peritoneum (پریتونوم), covers the organs in the abdominal cavity, supporting<sup>5</sup> and separating them.

- ۱- غذایی / ۲- در اصل
- ۳- تغییر یافتن / ۴- خاص
- ۵- حمایت کردن

### • The Mouth to The Stomach

Digestion begins in the mouth, also called the oral cavity. Here, food is chewed into small bits<sup>1</sup> by the teeth. There are 32 teeth in a complete adult set, including incisors<sup>2</sup> and canines<sup>3</sup> to bite food and molars<sup>4</sup> for grinding<sup>5</sup>. The palate is the roof of the mouth; the anterior portion (hard palate) is formed by bone, and the posterior part (soft palate) is made of soft tissue. The fleshy<sup>6</sup> uvula, used in speech production, hangs<sup>7</sup> from the soft palate. In the process of chewing, or mastication<sup>8</sup>, the tongue, lips, cheeks, and palate also help to break up food and mix it with saliva, a secretion that moistens<sup>9</sup> the food and begins starch<sup>10</sup> digestion. The salivary<sup>11</sup> glands<sup>12</sup> secrete saliva into the mouth and are considered to be accessory digestive organs.

- ۱- گازهای کوچک
- ۲- دندان پیشین / ۳- دندان نیش
- ۴- دندان آسیا / ۵- آسیاب کردن
- ۶- گوشتی / ۷- آویزان بودن
- ۸- جویدن / ۹- مرطوب کردن
- ۱۰- نشاسته / ۱۱- بزاقی
- ۱۲- غدد

### • The Small Intestine

Food leaving the stomach enters the duodenum, the first portion of the small intestine. As the food continues through the jejunum and ileum, the small intestine's remaining<sup>1</sup> sections, digestion is completed. The digestive substances active in the small intestine include enzymes from the intestine itself and products from accessory organs that secrete into the duodenum.

- ۱- باقی مانده





The digested nutrients, including water, minerals, and vitamins, are absorbed into the circulation, aided<sup>2</sup> by small projections<sup>3</sup> in the intestinal lining called villi. Each villus<sup>4</sup> has blood capillaries to absorb nutrients into the bloodstream and lymphatic capillaries, or lacteals<sup>5</sup>, to absorb small molecules of digested fats into the lymph. These fats join the blood when lymph flows into the bloodstream near the heart.

۲- کمک کردن

۳- برآمدگی‌ها

۴- پرز

۵- شیری

### • The Large Intestine

Any food that has not been digested, along with water and digestive juices<sup>1</sup>, passes into the large intestine. This part of the digestive tract begins in the lower right region of the abdomen with a small pouch<sup>2</sup>, the cecum, to which the appendix<sup>3</sup> pouch is attached (The appendix does not aid in digestion, but contains lymphatic tissue and may function in immunity). The large intestine continues as the colon, a name that is often used alone to mean the large intestine, because the colon constitutes<sup>4</sup> such a large portion of that organ. The colon travels upward along the right side of the abdomen as the ascending colon, crosses below the stomach as the transverse colon, and then continues down the left side of the abdomen as the descending colon. As food is pushed through the colon, water is reabsorbed, and stool or feces<sup>5</sup> is formed<sup>6</sup>. This waste material passes into the S-shaped sigmoid colon and is stored in the rectum until eliminated<sup>7</sup> through the anus.

۱- شیره گوارشی

۲- بن‌بست، کیسه

۳- آپاندیس

۴- تشکیل دادن

۵- مدفوع

۶- تشکیل شدن

۷- حذف کردن

### ■ THE ACCESSORY ORGANS

The salivary glands, which secrete into the mouth, are the first accessory organs to act<sup>1</sup> on food. They secrete an enzyme (salivary amylase) that begins starch digestion. The remaining accessory organs are in the abdomen and secrete into the duodenum. The liver is a large gland with many functions. A major activity is to process blood, removing toxins and converting nutrients into new compounds. A special circulatory pathway, the hepatic portal system, carries blood to the liver from the other abdominal organs. The liver functions in digestion by secreting bile, which emulsifies<sup>2</sup> fats, that is, breaks them down into smaller units. The gallbladder<sup>3</sup> stores bile until it is needed in digestion. The common hepatic duct from the liver and the cystic duct from the gallbladder merge to form the common bile duct, which empties into the duodenum.

۱- عمل کردن، فعالیت کردن

۲- امولسیون کردن

۳- کیسه صفرا

The pancreas produces a mixture of digestive enzymes that is delivered into the duodenum through the pancreatic duct. It also secretes large amounts of bicarbonate, which neutralizes<sup>4</sup> the strong stomach acid.

۴- خنثی کردن

این ریشه‌ها همگی مربوط به چیزای توی دهان هستن. یه بار ببینیمش. مثلاً رو خوب یادگیرا همه چیز در زندگی مهمه! حتی مثالی تو جدول!

Root or Suffix	Meaning	Example	Definition of Example
bucc/o	cheek (لپ)	buccoversion (بوکوروژن)	چرخش به سمت لب
dent/o	teeth/tooth	edentulous	بدون دندان
dent/i	(دندان)	(ایدنتولوس)	



Root of suffix	Meaning	Example	Definition or Example
odont/o	teeth/tooth (دندان)	periodontics (پریودونتیکس)	تخصصی از دندان پزشکی راجع به مطالعه و درمان بافت اطراف دندان
gingiv/o	gum (لثه)	gingivectomy (جینجیوکتومی)	برداشت بافت لثه
gloss/o	tongue (زبان)	glossoplegia (گلو سوپلژی)	فلج (-plegia) زبان
lingu/o	tongue (زبان)	orolingual (اورولینگوال)	مربوط به دهان و زبان
gnath/o	jaw (فک)	prognathous (پروگناتوس)	دارای فک برآمده
labi/o	lip (لب)	labium (لابیوم)	لب یا ساختار شبیه به لب
or/o	mouth (دهان)	circumoral (سیر کامورال)	دور دهان
stoma stomat/o	mouth (دهان)	xerostomia (زروستومیا)	خشکی (-xero) دهان
palat/o	palate (کام)	palatine (پالاتاین)	مربوط به کام
sial/o	saliva/salivary gland (بزاق، غدد بزاقی)	sialogram (سیالوگرام)	تصویر رادیوگرافی از غدد بزاقی و مجاری آن
uvul/o	uvula (زبان کوچک)	uvulotome (اوولوتوم)	ابزاری (-tome) برای برش در زبان کوچک

اینها هم ریشه‌های مربوط به سایر بخش‌های لوله گوارش به جز دهان هستند:

Root	Meaning	Example	Definition or Example
esophag/o	مری	esophageal (ازوفاجیال)	مربوط به مری
gastro/o	معده	gastroparesis (گاستروپارزی)	فلج نسبی (paresis) معده
pylor/o	پیلور	pyloroplasty (پیلوروپلاستی)	ترمیم پیلور
enter/o	روده	dysentery (دیس‌انتری)	بیماری عفونی روده





Root	Meaning	Example	Definition of Example
duoden/o	دئودنوم	duodenostomy (دئودنوستومی)	ایجاد یک منفذ در دئودنوم به کمک جراحی
jejun/o	ژژنوم	jejunectomy (ژژنکتومی)	برداشت ژژنوم
ile/o	ایلنوم	ileitis (ایلناتیس)	التهاب ایلنوم
cec/o	سکوم	cecoptosis (سکوپتوزیس)	افتادگی سکوم
col/o, colon/o	کولون	coloclysis (کولوکلایسیس)	شست و شوی (irrigation) کولون (irrigation = clysis-)
sigmoid/o	کولون سیگموئید	sigmoidoscope (سیگموئیدوسکوپ)	یک اندوسکوپ جهت معاینه سیگموئید
rect/o	رکتوم	rectocele (رکتوسل)	هرنی (فتق) رکتوم
proct/o	رکتوم	proctopexy (پروکتوپکسی)	فیکساسیون (تثبیت) رکتوم (pexy = فیکاسیون)
an/o	رکتوم	perianal (پری آنال)	دور مقعد

به سری ریشه‌های راجع به ارگان‌ها و اعضای فرعی دستگاه گوارش یاد بگیر:

Root	Meaning	Example	Definition of Example
hepat/o	کبد	hepatocyte (هپاتوسیت)	یک سلول کبد
bili	صفرا	biliary (بیلیاری)	مربوط به صفرا و مجاری صفراوی
chol/e, chol/o	صفرا	cholestasis (کلستازیس)	توقف جریان صفرا
cholecyst/o	کیسه صفرا	cholecystogram (کله‌سیستوگرام)	تصویر رادیوگرافی از کیسه صفرا
cholangi/o	مجرای صفراوی	cholangioma (کلانژیوما)	سرطان مجاری صفراوی
choledoch/o	مجرای صفراوی مشترک	choledochal (کله‌دوخال)	مربوط به مجرای صفراوی مشترک
pancreat/o	پانکراس	pancreatotropic (پانکراتوتروپیک)	اثرگذار و فعال در پانکراس



۱. micrognathia is excessive smallness of the \_\_\_\_  
 ۲. stomatoplasty is any plastic repair of the \_\_\_\_  
 ۳. hemiglossal is pertaining to one half of the \_\_\_\_  
 ۴. sialolith is a stone formed in a(n) \_\_\_\_  
 ۵. Downward displacement of uvula

۱. persistent indigestion as a symptom of stomach cancer  
 ۲. surgical fixation of the colon  
 ۳. enlargement of liver  
 ۴. inflammation of a bile duct  
 ۵. wave-like muscular contraction

Answer: ۱. jaw / ۲. Plastic repair of mouth / ۳. Tongue / ۴. Salivary gland / ۵. uvuloptosis

۱. dyspepsia / ۲. Colopexy / ۳. Hepatomegaly / ۴. Cholangitis / ۵. peristalsis

سخت که نبود؟ قشنگ رو این مبحث مسلط شدی هرچی بهت بدن دیگره میتونی جواب بدی.

۱. Glossopyrosis is the condition in which there is a/an ..... sensation on the tongue caused by spicy foods/etc.

- ۱) allergic                      ۲) burning  
 ۳) shivering                    ۴) swelling

پزشکی قلبی

۲. Glossorrhaphy is the.....

- ۱) radiography of the renal pelvis  
 ۲) surgical fixation of the colon  
 ۳) suturing of wound in the tongue  
 ۴) softening of the glomerulus

پزشکی قلبی

۳. A surgical procedure in which abnormal cleft in upper jaw is reconstructed is .....

- ۱) cheiloschisis                      ۲) labiodynia  
 ۳) palatorrhaphy                    ۴) Gnathoplasty

پزشکی قلبی

۴. Stomatitis a common side effect of systemic chemotherapy, is an inflammatory condition of the.....

- ۱) Mouth                              ۲) Stomach  
 ۳) Teeth and hair                    ۴) Abdomen

پزشکی قلبی

۵. Sialolithiasis refers to the formation of stones in the .....

- ۱) salivary glands  
 ۲) urinary bladder  
 ۳) lacrimal glands  
 ۴) gall bladder

پزشکی قلبی

۶. To start endoscopy, the physician ..... the endoscope into the esophagus.

- ۱) excised                              ۲) incised  
 ۳) introduced                        ۴) recuperated

پزشکی قلبی

(introduced: به کار گرفتن، ارائه کردن / recuperated: بهبود یافتن)

۷. Proctopexy means surgical fixation of .....

- ۱) ileum                                  B) duodenum  
 ۳) jejunum                              D) rectum

پزشکی قلبی

۸. The gastric juices ..... By the glands make swallowing easier.

- ۱) Conducted                        ۲) Released  
 ۳) Inactivated                        ۴) surrounded

پزشکی قلبی

۹. Cholemesis is a medical condition means.....

- ۱) vomiting of blood                      B) vomiting of bile  
 ۳) spitting of blood                        D) spitting of bile

کشوری - اردیبهشت ۹۶

۱۰. Muscular wave- like movement to transport food through the digestive system is called .....

- ۱) regurgitation                        B) mastication  
 ۳) emulsification                        D) peristalsis

پزشکی قلبی

۱۱. He is suffering from .....; the wall of his stomach is softened.

- ۱) gastrolisis                              ۲) gastromalacia  
 ۳) gastroschisis                        ۴) gastroptosis

۱۴۰۰ پزشکی شهرریور

۱۲. Biliary obstruction, malignancies, and infection may lead to the enlargement of the liver, which is referred to as ..... . )

- ۱) nephromegaly                        ۲) nephritis  
 ۳) hepatomegaly                        ۴) hepatitis

۱۴۰۰ پزشکی خرداد

Answers: ۱. B / ۲. C / ۳. C / ۴. A / ۵. A / ۶. C / ۷. D / ۸. B / ۹. B / ۱۰. D / ۱۱. B / ۱۲. C



## ■ DIGESTIVE TRACT

### • Infection

A variety of organisms can infect the GI tract, from viruses and bacteria to protozoa<sup>1</sup> and worms. In the mouth, bacterial infection contributes to tooth decay or caries<sup>2</sup>. It may cause a mild gum<sup>3</sup> infection (gingivitis) or more extensive<sup>4</sup> involvement of the deeper tissues and bony support around the tooth (peridontitis). Infections of the stomach or intestine may produce short-lived upsets<sup>5</sup> with gastroenteritis, nausea, diarrhea, and emesis (vomiting<sup>6</sup>). Other infectious diseases of the GI tract, such as typhoid, cholera, and dysentery<sup>7</sup>, are more serious, even fatal<sup>8</sup>.

Appendicitis results from infection of the appendix, often secondary to its obstruction. Surgery is necessary to avoid rupture and peritonitis<sup>9</sup>, infection of the peritoneal cavity.

### • Ulcers

An ulcer<sup>1</sup> is a lesion<sup>2</sup> of the skin or a mucous membrane marked by inflammation and tissue damage. Ulcers caused by the damaging action of gastric juices, also called peptic juices, on the lining of the GI tract are termed **peptic ulcers**. Most peptic ulcers appear in the first portion of the duodenum. The origins of such ulcers are not completely known, although infection with a bacterium, *Helicobacter pylori*, has been identified as a major cause. Heredity and stress may be factors, as well as chronic inflammation and exposure to damaging drugs, such as aspirin and other NSAIDs, or to irritants in food and drink.

Current ulcer treatment includes the administration of antibiotics to eliminate *H. pylori* infection and use of drugs that inhibit<sup>3</sup> gastric acid secretion. Ulcers may lead to hemorrhage<sup>4</sup> or to perforation of the digestive tract wall.

Ulcers can be diagnosed by **endoscopy** and by radiographic study of the GI tract using a contrast<sup>5</sup> medium, usually barium sulfate. A **barium study** can reveal a variety of GI disorders in addition to ulcers, including tumors and obstructions. A barium swallow is used for the study of the pharynx and esophagus; an upper GI series examines the esophagus, stomach, and small intestine.

### • Cancer

Cancer of the mouth generally involves the lips or tongue. Smoking is a major risk factor in these cases. **Leukoplakia**, white patches on mucous membranes, often results from smoking or other irritants and is an early sign of cancer in up to 25 percent of cases. The most common sites for GI tract cancer are the colon and rectum. Heredity is a factor, as is chronic inflammation of the colon (colitis). **Polyps** (growths) in the intestine often become cancerous and should be removed. Polyps can be identified and even removed by endoscopy.

One sign of colorectal cancer is bleeding<sup>1</sup> into the intestine, which can be detected by testing the stool for blood. Because this blood may be present in very small amounts<sup>2</sup>, it is described as **occult** ("hidden<sup>3</sup>") **blood**.

Examiners can observe the intestine's interior<sup>4</sup> with various endoscopes named for the specific area in which they are used, such as proctoscope (rectum), sigmoidoscope (sigmoid colon), and colonoscope (colon).

۱- تک یاخته

۲- پوسیدگی

۳- لته / ۴- وسیع

۵- ناراحتی‌های کوتاه مدت

۶- استفراغ

۷- عفونت روده همراه با اسهال خونی

۸- کشنده

۹- التهاب صفاق

۱- زخم

۲- ضایعه

۳- مهار کردن

۴- خونریزی

۵- ماده حاجب

۱- خونریزی

۲- مقدار

۳- پنهان

۴- سطح داخل



In some cases of cancer, and for other reasons as well, it may be necessary to surgically remove a portion of the GI tract and create<sup>1</sup> a **stoma** (opening<sup>2</sup>) on the abdominal wall for elimination of waste. Such **ostomy** surgery is named for the organ involved, such as **ileostomy** (ileum) or **colostomy** (colon). When an **anastomosis** (connection<sup>3</sup>) is formed between two organs of the tract, both organs are included in naming<sup>4</sup>, such as **gastroduodenostomy** (stomach and duodenum) or **coloproctostomy** (colon and rectum).

### • Obstructions

A **hernia**<sup>1</sup> is the protrusion<sup>2</sup> of an organ through an abnormal opening. The most common type is an **inguinal hernia**. In a **hiatal hernia**, part of the stomach moves upward into the chest cavity through the space (**hiatus**<sup>3</sup>) in the diaphragm through which the esophagus passes. Often this condition produces no symptoms, but it may result in chest pain, **dysphagia** (difficulty in swallowing), or **reflux** (backflow<sup>4</sup>) of stomach contents into the esophagus.

In **pyloric stenosis**, the opening between the stomach and small intestine is too narrow. A sign of pyloric stenosis is **projectile**<sup>5</sup> vomiting. Surgery may be needed to correct it.

Other types of obstruction include **intussusception**<sup>6</sup> slipping<sup>7</sup> of an intestinal segment into a part below it; **volvulus**, twisting<sup>8</sup> of the intestine; and **ileus**, intestinal obstruction often caused by lack of peristalsis.

**Hemorrhoids**<sup>9</sup> are varicose<sup>10</sup> veins in the rectum associated with pain, bleeding, and, in some cases, rectal prolapse.

### • Gastroesophageal Reflux Disease

**Gastroesophageal reflux disease (GERD)** refers to reflux of gastric juices into the esophagus due to weakness at the gastroesophageal junction<sup>1</sup>, specifically the **LES** (lower esophageal sphincter). These acidic secretions irritate the lining of the esophagus and even the throat and mouth if propelled<sup>2</sup> upward by **regurgitation**<sup>3</sup>. A GERD symptom commonly known as **heartburn**<sup>4</sup>, an upward-radiating<sup>5</sup> burning sensation behind the sternum, does not involve the heart, but is experienced in the area near the heart.

GERD symptoms are more likely to occur<sup>6</sup> when there is increased pressure in the stomach, such as after meals<sup>7</sup> when the stomach is full, when one is lying<sup>8</sup> or bending down<sup>9</sup>, and with obesity<sup>10</sup> and pregnancy. Hiatal hernia can also lead to GERD.

Persistent<sup>11</sup> reflux esophagitis may cause injury to the esophageal lining leading to **Barrett syndrome** or **Barrett esophagus**. In this condition, the esophageal mucosa is gradually replaced with epithelium resembling<sup>12</sup> that of the stomach or intestines. Barrett esophagus frequently has no early symptoms, but possible complications include esophageal spasms, formation of scar tissue, esophageal strictures<sup>13</sup>, and increased risk of cancer.

### • Inflammatory Intestinal Disease

Two similar diseases are included under the heading<sup>1</sup> of inflammatory bowel disease (IBD):

- **Crohn disease** is a chronic inflammation of the intestinal wall, usually in the ileum and colon, causing pain, diarrhea<sup>2</sup>, abscess, and often formation of an abnormal passageway, or **fistula**.
- **Ulcerative colitis** involves a continuous inflammation of the colon's lining that begins in the rectum and extends proximally.

**Celiac disease** is characterized by the inability to absorb foods containing gluten, a protein found in wheat<sup>3</sup> and some other grains<sup>4</sup>. It affects the upper part of the small intestine and originates with an excess immune response to gluten. Mucosal inflammation diminishes the intestinal villi and interferes<sup>5</sup> with absorption. Celiac disease is treated with a gluten-free diet<sup>6</sup>.

۱- ایجاد کردن

۲- منفذ

۳- اتصال

۴- نامگذاری

۱- هرنی، فتق

۲- بیرون زدگی

۳- دهانه

۴- جریان برعکس، برگشتن

۵- پرتابی

۶- درهم رفتگی

۷- لیز خوردن

۸- پیچ خوردن

۹- بواسیر

۱۰- واریسی

۱- پیوستگاه

۲- حرکت کردن، پیش راندن

۳- ریگورژیتاسیون (بازگشت غذا)

۴- سوزش سردل / ۵- منتشر به بالا

۶- رخ دادن / ۷- غذاها، وعده‌ها

۸- دراز کشیدن

۹- خم شدن به پایین

۱۰- چاقی

۱۱- مداوم

۱۲- شبیه بودن به

۱۳- تنگی مری

۱- تحت عنوان

۲- اسهال

۳- گندم

۴- غلات

۵- ایجاد تداخل

۶- رژیم فاقد گلوتن



Diverticulitis most commonly affects the colon. Diverticula are small pouches in the intestinal wall that commonly appear with age. The presence of these pouches is termed diverticulosis, which has been attributed<sup>7</sup> to a diet low in fiber. Collection of waste and bacteria in these sacs leads to diverticulitis, which is accompanied<sup>8</sup> by pain and sometimes bleeding.

۷- نسبت دادن

۸- همراه با

## ■ ACCESSORY ORGANS

### • Hepatitis

In the United States and other industrialized<sup>1</sup> countries, hepatitis is most often caused by viral infection. More than five types of hepatitis viruses have now been identified. Vaccines are available<sup>2</sup> for hepatitis A and hepatitis B. The name *hepatitis* simply means "inflammation of the liver," but this disease also causes necrosis (death) of liver cells. Other infections as well as drugs and toxins may also cause hepatitis. Liver function tests performed<sup>3</sup> on blood serum are important in diagnosis.

۱- صنعتی

۲- در دسترس بودن

۳- انجام دادن

Jaundice, or icterus<sup>4</sup>, is a symptom of hepatitis and other diseases of the liver and biliary system. It appears as yellowness of the skin, whites of the eyes, and mucous membranes due to<sup>5</sup> the presence of bile pigments<sup>6</sup>, mainly bilirubin, in the blood.

۴- یرقان

۵- به دلیل

۶- رنگدانه

### • Cirrhosis

Cirrhosis is a chronic liver disease characterized by hepatomegaly, edema, ascites (fluid in the abdomen), and jaundice. Disease progression<sup>1</sup> leads to internal bleeding and brain damage caused by changes in the blood's composition. One complication of cirrhosis is portal hypertension, increased pressure in the hepatic portal system, the vessels that carry blood from the other abdominal organs to the liver. Portal hypertension causes splenomegaly and the formation of varices (varicose veins) in the distal esophagus with possible hemorrhage. The main cause of cirrhosis is the excess consumption<sup>2</sup> of alcohol.

۱- پیشرفت

۲- مصرف

### • Gallstones

Cholelithiasis refers to the presence of stones in the gallbladder or bile ducts, which is usually associated with cholecystitis, inflammation of the gallbladder. Cholelithiasis is characterized by biliary colic (pain) in the right upper quadrant<sup>1</sup> (RUQ), nausea<sup>2</sup>, and vomiting<sup>3</sup>. Most gallstones are composed of cholesterol, an ingredient<sup>4</sup> of bile. They form more commonly in women than in men and are promoted<sup>5</sup> by conditions that increase estrogen, as this hormone raises the cholesterol level in bile. These predisposing conditions include pregnancy, use of oral contraceptives<sup>6</sup>, and obesity. Oddly<sup>7</sup>, the rapid weight loss that follows stomach reduction surgery to treat morbid obesity commonly leads to gallstones because of changes in bile production and cholesterol precipitation<sup>8</sup> in the bile. Drugs may dissolve gallstones, but often the cure is removal of the gallbladder in a cholecystectomy.

۱- ربع

۲- تهوع

۳- استفراغ

۴- ماده سازنده

۵- تقویت شدن

۶- ضدبارداری

۷- به طرز عجیبی

۸- رسوب

### • Pancreatitis

Pancreatitis, or inflammation of the pancreas, may result from alcohol abuse<sup>1</sup>, drug toxicity, bile obstruction, infections, and other causes. Blood tests in acute pancreatitis show increased levels of the enzymes amylase and lipase. Glucose and bilirubin levels may also be elevated. Often the disease subsides<sup>2</sup> with only symptomatic treatment.

۱- سوء مصرف

۲- فروکش کردن



از این به هم وصل کنیدهای همیشگی هم یادت نره حل کنی!

- |                         |  |
|-------------------------|--|
| ___ 1. choledochal      | 1). a type of liver disease            |
| ___ 2. cholelithotripsy | 2). pertaining to the common bile duct |
| ___ 3. cholangiectasis  | 3). crushing of a biliary calculus     |
| ___ 4. leukoplakia      | 4). dilatation of a bile duct          |
| ___ 5. cirrhosis        | 5). white patches on a mucous membrane |

Answer: 1. B / 2. C / 3. D / 4. E / 5. A

اینم باز به سری تست از همین مبحث! میخوام بهت ارزش این متن‌ها رو نشون بدم!

1. Patients are advised to avoid caffeine, smoking, and alcohol which ..... the symptoms of gastric ulcers.

- |              |              |
|--------------|--------------|
| 1) intensify | 2) alleviate |
| 3) obstruct  | 4) contain   |

پزشکی - کتوری

2. The patient referred to the physician with excessive vomiting; the physician diagnosed his condition as .....

- |                |              |
|----------------|--------------|
| 1) hyperemesis | 2) uniemesia |
| 3) galactorhea | 4) polyuria  |

پزشکی قطعی

3. The white patches on mucous membranes marked by inflammation and tissue damage are called .....

- |                 |                |
|-----------------|----------------|
| 1) leukopenia   | 2) leukemia    |
| 3) leukocytosis | 4) leukoplakia |

پزشکی قطعی

4. 70 year old male is diagnosed with slipping of one intestinal part into another part below it. What is the diagnostic term?

- |                     |                |
|---------------------|----------------|
| 1) Intussusceptions | 2) Peristalsis |
| 3) Polyp            | 4) Peritonitis |

پزشکی قطعی

5. Diverticula are:

- |  |
|--|
| 1) Small pouches in the wall of the colon. |
| 2) Communications between two organs.      |
| 3) Ducts in the liver.                     |
| 4) Polyps in the intestine.                |

پزشکی قطعی

2. Characterized by right upper quadrant pain and colicky in nature, ..... is often associated with fatty meals or diets, but this is not required.

- |                       |                   |
|-----------------------|-------------------|
| 1) urocystolith       | 2) Cholelithiasis |
| 3) Ulcerative colitis | 4) ileocolostomy  |

پزشکی قطعی

3. Abnormal accumulation of serous fluid in the spaces between tissues and organs in the cavity of the abdomen and free fluid in the peritoneal cavity:

- |              |               |
|--------------|---------------|
| 1) ascites   | 2) cachexia   |
| 3) edematous | 4) myasthenia |

پزشکی قطعی

4. A backward flow, such as the backflow of undigested food, is known as .....

- |                 |                  |
|-----------------|------------------|
| 1) obstination  | 2) ligation      |
| 3) recuperation | 4) regurgitation |

پزشکی قطعی

5. in ..... , the surgeon is supposed to remove the stone formed in gall bladder.

- |                         |
|-------------------------|
| 1) cystolithectomy      |
| 2) cystostomy           |
| 3) cholecystolithectomy |
| 4) cholecystotomy       |

پزشکی - آبان ۱۴۰۰

6. All of the following conditions can cause GI obstruction except for:

- |                     |
|---------------------|
| 1) Volvulus         |
| 2) Cirrhosis        |
| 3) Intussusception  |
| 4) Pyloric stenosis |

پزشکی قطعی



1. The inflammation involving the oral mucous membrane and the tongue is ——— .

- 1) stomatoglossitis
- 2) stomatomenia
- 3) stomocephalus
- 4) stomatocace

۱۳۰۰ اسماء

Answers: 1.A / 2.B / 3.A / 4.A / 5.D / 6.D / 7.A / 8.C / 9.A / 10.B / 11.A

اینم به متن گواشی از «پزشکی قطبی» با موضوع بیماری کرون- بزن بین چطوریه!

A.E., a 19- YO college student. Was diagnosed at the age of 13 with Crohn disease, a chronic inflammatory disease that can affect the entire<sup>1</sup> gastrointestinal tract from mouth to anus. A.E.'s disease is limited to his large bowel. During a nine- month period of disease exacerbation characterized by severe cramping and bloody stools, he took oral corticosteroids (prednisone) to reduce the inflammatory response. He experienced many of the drug's side effects, but has been in remission<sup>2</sup> for four years. Currently, A.E.'s condition is managed on drugs that reduce inflammation by suppressing the immune response. He takes Pentasa (mesalamine) 250mg 4 caps po<sup>3</sup> bid<sup>4</sup> Pentasa is of the 5- ASA (acetylsalicylic acid or aspirin) group of anti- inflammatory agents, which work topically on the inner surface of the bowel. It has an enteric coating<sup>5</sup>, which dissolves in the bowel environment. He also takes 6- mercaptopurine (purinethol) 75 mg po daily and a therapeutic vitamin with breakfast. A.E. may take acetaminophen for pain but must avoid NSAIDs, which will irritate the intestinal mucosa (inner lining) and cause a flare up of the disease.

۱- تمام

۲- بهبودی

۳- خوراکی، دهانی (per os)

۴- دو بار در روز

۵- پوشش

1. A.E. takes several drugs to prevent or act against his inflammatory response. These agents are described as:

- 1) contra-inflammatory
- 2) counter-inflammatory
- 3) anti-inflammatory
- 4) pro-inflammatory

2. A.E. presented with several untoward results or risks from the corticosteroid therapy. These sequelae are called:

- 1) contraindications
- 2) side effects
- 3) antagonistic effects
- 4) exacerbations

3. A.E. takes four 250- mg capsules of Pentasa po bid. How many capsules does he take in one day?

- 1) 2
- 2) 1
- 3) 4
- 4) 8

4. A.E. must avoid NSAIDs because, in cases of inflammatory bowel disease, these drugs are:

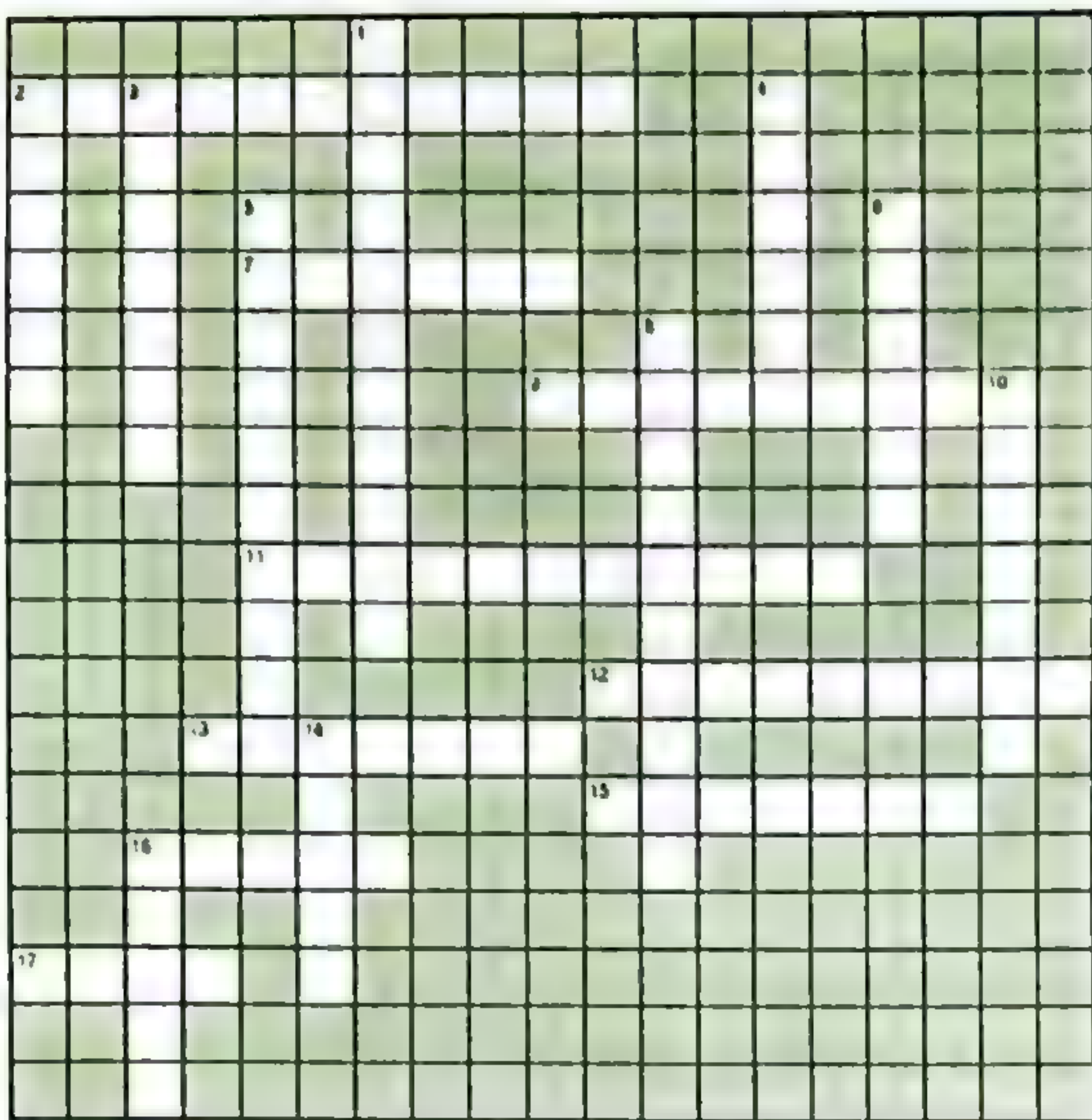
- 1) contraindicated
- 2) indicated
- 3) complementary
- 4) synergistic

(contraindicated: منع مصرف)

Answers: 1.C / 2.B / 3.D / 4.A



اینم یه جدول از این مبحث زیبا:



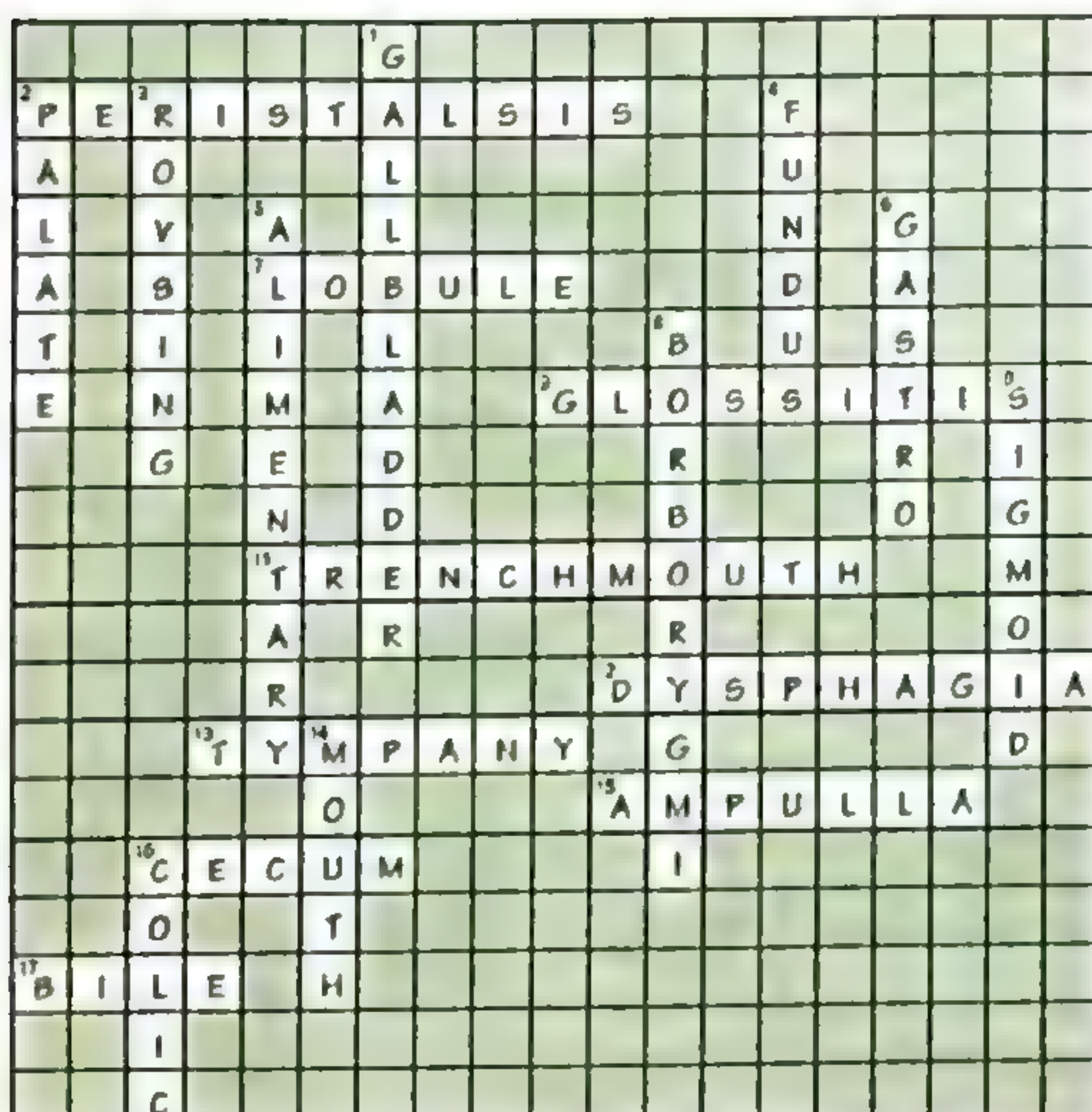
### Across

2. Rhythmic contraction and relaxation of smooth muscle in the alimentary canal
7. Liver's functional unit
9. Inflammation of the tongue
11. Another name for Vincent's stomatitis (Ans: Trench Mouth)
13. Difficult or painful swallowing
14. Clear, hollow, drumlike sound heard on abdominal palpation
15. Greek word that means little jug (Ans: Ampulla)
16. Saclike structure that makes up the first few inches of the large intestine
17. Yellow-green liquid that breaks down fats and neutralizes gastric secretions

### Down

1. Pear-shaped organ nestled under the liver
3. Roof of the mouth
5. Eponym for diagnostic sign of appendicitis (Ans: Rovsing)
6. Enlarged portion of the stomach above and to the left of the esophageal opening
8. Canal also called the GI tract
10. Root from Greek that means stomach
12. Growling sound in the stomach that indicates hunger (Ans: Borborygmi)
14. Part of the colon named after a Greek letter
16. Also called the buccal cavity
17. Acute abdominal pain

پاسخ جدول هم اینه:





## دستگاه ادراری Urinary System

## فصل ۱۱ Unit 11

تو این درس به سری تست و لغت از مبحث ادراری یاد میگیریم. زیاد سخت نیست برو میبینی.

### ♦ بررسی دستگاه ادراری از نظر ساختاری و عملکردی:

#### ■ INTRODUCTION

The urinary system excretes<sup>1</sup> metabolic waste. In forming and eliminating urine, it also regulates the composition, volume, and acid-base balance (pH) of body fluids. In several ways, kidney activity affects the circulation. The urinary system is thus of critical<sup>2</sup> importance in maintaining homeostasis, the state of internal balance. The urinary system consists of:

- Two kidneys, the organs that form urine
- Two ureters<sup>3</sup>, which transport urine from the kidneys to the bladder
- The urinary bladder, which stores and eliminates urine The urethra<sup>4</sup>, which carries urine out of the body

#### ■ THE KIDNEYS

The kidneys are the organs that form urine<sup>1</sup> from substances filtered out of the blood. In addition to metabolic wastes, urine contains water and ions, so its formation is important in regulating the blood's volume and composition. In addition, the kidneys produce two substances that act on the circulatory system:

- - Erythropoietin (EPO), a hormone that stimulates red blood cell production in the bone marrow.
- - Renin, an enzyme that functions to raise blood pressure. It activates a blood component called angiotensin, which causes constriction of the blood vessels. The drugs known as ACE inhibitors (angiotensin-converting enzyme inhibitors) lower blood pressure by interfering<sup>2</sup> with the production of angiotensin.

#### • Kidney Location and Structure

The kidneys are located behind the peritoneum in the lumbar region. On the top of each kidney rests<sup>1</sup> an adrenal gland. The kidney is encased<sup>2</sup> in a capsule of fibrous connective tissue overlaid<sup>3</sup> with fat. An outermost layer of connective tissue supports the kidney and anchors<sup>4</sup> it to the body wall.

If you look inside the kidney, you will see that it has an outer region, the renal cortex<sup>5</sup>, and an inner region, the renal medulla. The medulla is divided into triangular<sup>6</sup> sections, the renal pyramids<sup>7</sup>. These pyramids have a lined appearance<sup>8</sup> because they are made up of the loops and collecting tubules of the nephrons, the kidney's functional units. Each collecting tubule empties into a urine-collecting area called a calyx (from the Latin word meaning "cup"). Several of the smaller minor calices merge to form a major calyx. The major calices then unite<sup>9</sup> to form the renal pelvis, the upper funnel-shaped portion of the ureter.

۱- دفع

۲- مهم و حیاتی

۳- میزنای، حالب

۴- پیشابراه

۱- ادرار

۲- مداخله کردن

۱- قرار داشتن

۲- محصور شدن

۳- پوشیده شدن

۴- متصل کردن

۵- قشر

۶- مثلثی

۷- هرم

۸- ظاهر خط خطی

۹- متحد کردن



## • The Nephron

The tiny working units of the kidneys are the nephrons. Each of these microscopic structures is basically a single tubule coiled<sup>1</sup> and folded<sup>2</sup> into various shapes. The tubule begins with a cup-shaped **glomerular (Bowman) capsule**, which is part of the nephron's blood-filtering device. The tubule then folds into the **proximal<sup>3</sup> tubule**, straightens<sup>4</sup> out to form the **nephron loop<sup>5</sup> (loop of Henle)**, coils again into the **distal<sup>6</sup> tubule**, and then finally straightens out to form a **collecting<sup>7</sup> duct**.

## • Blood Supply to the Kidney

Blood enters the kidney through a renal artery, a short branch of the abdominal aorta. This vessel subdivides into smaller vessels as it branches throughout the kidney tissue, until finally blood is brought into the glomerular capsule and circulated through a cluster of capillaries, called a **glomerulus**, within the capsule.

Blood leaves the kidney by a series of vessels that finally merge<sup>8</sup> to form the renal vein, which empties into the inferior vena cava.

## ■ URINE FORMATION

As blood flows through the glomerulus, blood pressure forces materials through the glomerular wall and through the wall of the glomerular capsule into the nephron. The fluid that enters the nephron, the **glomerular filtrate**, consists mainly of water, electrolytes, soluble wastes, nutrients, and toxins. The main waste material is **urea<sup>1</sup>**, the nitrogenous (nitrogen-containing) byproduct of protein metabolism. The filtrate should not contain any cells or proteins, such as albumin.

The waste material and the toxins must be eliminated, but most of the water, electrolytes, and nutrients must be returned to the blood, or we would rapidly starve<sup>2</sup> and dehydrate. This return process, termed **tubular reabsorption**, occurs<sup>3</sup> through the peritubular capillaries that surround the nephron.

As the filtrate flows through the nephron, other processes further regulate its composition and pH. The filtrate's concentration is also adjusted under the effects of a pituitary hormone. **Antidiuretic hormone (ADH)** promotes reabsorption of water, thus concentrating the filtrate. The final filtrate, now called urine, flows into the collecting ducts to be eliminated. A **diuretic** is a substance that promotes<sup>4</sup> increased urinary output or **diuresis**. Diuretic drugs are used in treating hypertension and heart failure to decrease fluid volume and reduce the heart's workload.

## • Transport and Removal of Urine

Urine is drained from the renal pelvis and carried by the left and right ureters to the **urinary bladder**, where it is stored. The bladder is located posterior to the pubic bone and below the peritoneum. As the bladder fills, it expands upward from a stable triangle at its base. This triangle, the **trigone**, is marked by the ureteral openings and the urethral opening below. The trigone's stability<sup>1</sup> prevents urine from refluxing into the ureters.

Fullness stimulates a reflex contraction of the bladder muscle and expulsion<sup>2</sup> of urine through the **urethra**. The female urethra is short (4 cm [1.5 in]) and carries only urine. The male urethra is longer (20 cm [8 in]) and carries both urine and semen<sup>3</sup>.

The voiding<sup>4</sup> (release) of urine, called **urination** or more technically, **micturition**, is regulated by two sphincters (circular muscles) that surround the urethra. The superior muscle, the internal urethral sphincter, is around the entrance to the urethra and functions involuntarily; the inferior muscle, the external urethral sphincter, is under conscious control. An inability to retain<sup>5</sup> urine is termed **urinary incontinence<sup>6</sup>**.

۱- پیچیده

۲- تا خوردن

۳- نزدیک

۴- صاف شدن

۵- حلقه

۶- دور

۷- جمع کننده

۸- ادغام شدن

۱- آورده

۲- گرسنگی کشیدن

۳- رخ دادن

۴- تقویت کردن

۱- پایداری

۲- خروج یا دفع

۳- مایع منی

۴- بیرون ریختن

۵- نگه داشتن

۶- بی‌اختیاری ادرار



این پایه سری ریشه مربوط به کلیه از دستگاه ادراری؛

Root	Meaning	Example	Definition of Example
ren/o	کلیه	Suprarenal (سوپرارنال)	بالای کلیه
nephro	کلیه	Nephrosis (نفروزیس)	هر بیماری غیرالتهابی کلیه
glomerul/o	گلومرول	Juxtaglomerular (جاکستاگلومرولار)	نزدیک گلومرول ها
pyel/o	لگنچه کلیوی	Pyelectasis (پایلکتیسیس)	اتساع لگنچه کلیه ها
cali/o, calic/o	کالیس	Caliceal (کالیسیال)	مربوط به کالیس کلیوی (calyceal هم نوشته می شود)

این پایه هم سری ریشه از سایر بخش های دستگاه ادراری به جز کلیه:

Root	Meaning	Example	Definition of Example
ur/o	ادرار، دستگاه ادراری	Urosepsis (اوروسپسیس)	عفونت منتشر با منشا مجرای ادراری
urin/o	ادرار	Nocturia (ناکچوریا)	ادرار کردن در شب
ureter/o	میزنای	Ureterostenosis (یورترو استنوزیس)	تنگ شدن میزنای
cyst/o	مثانه (bladder)	Cystocele (سیستوسل)	هرنی مثانه
vesic/o	مثانه	Intravesical (اینتراوزیکال)	درون مثانه
urether/o	پیشابراه	Urethrotome (یورتروتوم)	وسیله ای برای برش پیشابراه

خب به تمرین مهم دیگه که در آزمون های اخیر مورد توجه طراحان بوده...

۱. The condition described as bed-wetting
۲. Painful urination
۳. The passage of small amounts of urine

۴. Blood in urination
۵. Involuntary passing of urine

Answer: ۱.Nocturia/۲.Dysuria/۳.Oliguria/۴.Hematuria/۵.Enuresis



ببینم این تست رو چه میکنی:

۱. The patient was strongly advised to go under nephrolithotomy or ..... by surgical procedure.

- ۱) hardening of a stone in the kidney
- ۲) removal of the urinary bladder
- ۳) excision of the kidney and stones
- ۴) incision to remove a renal calculus

۲. Renal calculi are:

- ۱) bile obstructions
- ۲) kidney malfunction
- ۳) kidney stones
- ۴) gallstones

۳. A cystoscope is an instrument used most commonly by which of the following specialists?

- ۱) Endocrinologist
- ۲) Gastroenterologist
- ۳) Dermatologist
- ۴) Urologist

۴. The patient complained about excessive and frequent urination after going to bed. His condition was diagnosed as .....

- ۱) Oliguria
- ۲) Anuria
- ۳) Nyctalgia
- ۴) Nocturia

۵. The correction of certain disease may be possible if early treatment is provided. It should be however noted that certain chronic diseases such as renal failure are .....

- ۱) responsive
- ۲) compulsory
- ۳) irreversible
- ۴) unintentional

۶. .... is the procedure in which stones are crushed.

- ۱) Lithotomy
- ۲) Nephrolithiasis
- ۳) Lithotrite
- ۴) Lithotripsy

۷. Distention of the ureter is referred to as .....

- ۱) ureterolithiasis
- ۲) ureterectasis
- ۳) ureteropyosis
- ۴) urethratresia

Answers: ۱. D / ۲. C / ۳. C / ۴. D / ۵. D / ۶. B / ۷. D

♦ بررسی دستگاه ادراری از نظر بالینی:

## ■ INFECTIONS

Organisms that infect the urinary tract generally enter through the urethra and ascend<sup>1</sup> toward the bladder, producing **cystitis**. Untreated, the infection can ascend even further into the urinary tract. The infecting organisms are usually colon bacteria carried in feces, particularly *Escherichia coli*. Although urinary tract infections (UTIs) do occur in men, they appear more commonly in women because the female urethra is shorter than the male urethra and its opening is closer to the anus. Poor toilet habits and **urinary stasis**<sup>2</sup> are contributing factors. In hospitals, UTIs may result from procedures involving the urinary system, especially **catheterization**, in which a tube is inserted into the bladder to withdraw urine. Less frequently, UTIs originate in the blood and descend through the urinary system.

An infection that involves the kidney and renal pelvis is termed **pyelonephritis**. As in cystitis, signs of this condition include **dysuria**<sup>3</sup>, painful or difficult urination, and the presence of bacteria and pus in the urine, **bacteriuria** and **pyuria**, respectively.

**Urethritis** is inflammation of the urethra, generally associated with sexually transmitted<sup>4</sup> infections such as gonorrhea<sup>5</sup> and chlamydial infections.

۱- بالا رفتن

۲- توقف ادرار

۳- سوزش ادرار

۴- منتقله

۵- سوزاک



## ■ GLOMERULONEPHRITIS

Although<sup>1</sup> the name simply means inflammation of the glomeruli and kidney, glomerulonephritis is a specific disorder that follows an immunologic reaction. It is usually a response to infection in another system, commonly a streptococcal infection of the respiratory tract or a skin infection. It may also accompany<sup>2</sup> autoimmune diseases such as lupus erythematosus. The symptoms are hypertension, edema, and oliguria<sup>3</sup>, the passage of small amounts of urine.

This urine is highly concentrated. Because of damage to kidney tissue, blood and proteins escape into the nephrons, causing hematuria<sup>4</sup>, blood in the urine, and proteinuria, protein in the urine. Blood cells may also form into small molds of the kidney tubule, called casts, which can be found in the urine. Most patients fully recover from glomerulonephritis, but in some cases, especially among the elderly, the disorder may lead to chronic renal failure (CRF) or end-stage renal disease (ESRD). In such cases, urea and other nitrogenous compounds accumulate in the blood, a condition termed uremia. These compounds affect the central nervous system, causing irritability<sup>5</sup>, loss of appetite<sup>6</sup>, stupor, and other symptoms. There is also electrolyte imbalance and acidosis.

## ■ NEPHROTIC SYNDROME

Glomerulonephritis is one cause of nephrotic syndrome, a disease in which the glomeruli become overly permeable<sup>1</sup> and allow the loss of proteins. Other possible causes of nephrotic syndrome are renal vein thrombosis, diabetes, systemic lupus erythematosus, toxins, or any other condition that damages the glomeruli.

Nephrotic syndrome is marked by proteinuria and hypoproteinemia, low blood protein. The low plasma protein level affects capillary exchange and results in edema. There is also an increase in blood lipids, as the liver compensates<sup>2</sup> for lost protein by releasing lipoproteins.

## ■ ACUTE RENAL FAILURE

Injury, shock, exposure to toxins, infections, and other renal disorders may cause damage to the nephrons, resulting in acute renal failure (ARF). There is rapid loss of kidney function with oliguria and accumulation of nitrogenous wastes in the blood. Failure of the kidneys to eliminate potassium leads to hyperkalemia, along with other electrolyte imbalances and acidosis. When destruction (necrosis) of kidney tubules is involved, the condition may be referred to as acute tubular necrosis (ATN).

Renal failure may lead to a need for kidney dialysis or, ultimately<sup>1</sup>, renal transplantation. Dialysis refers to the movement of substances across a semipermeable<sup>2</sup> membrane; it is a method used to eliminate harmful or unnecessary substances from the body when the kidneys are impaired or have been. Two approaches are used:

- In hemodialysis, blood is cleansed by passage over a membrane surrounded by fluid (dialysate) that draws out unwanted substances. Most people on hemodialysis are treated for four hours three times a week in a dialysis center. Some patients are able to use simpler machines at home for daily dialysis.
- In peritoneal dialysis, fluid is introduced into the peritoneal cavity. The fluid, along with waste products, is periodically<sup>3</sup> withdrawn and replaced. Fluid may be exchanged at intervals<sup>4</sup> throughout the day in continuous ambulatory<sup>5</sup> peritoneal dialysis (CAPD) or during the night in continuous cyclic peritoneal dialysis (CCPD).

۱- اگرچه

۲- همراهی با

۳- کاهش میزان ادرار

۴- خون در ادرار

۵- بی‌قراری

۶- کاهش اشتها

۱- نفوذ پذیر

۲- جبران کردن

۱- در نهایت

۲- نیمه تراوا

۳- متناوباً

۴- فواصل

۵- متحرک



## ■ URINARY STONES

Urinary lithiasis (presence of stones) may be related to infection, irritation, diet, or hormone imbalances that lead to increased calcium in the blood. Most urinary calculi (stones) are made up of calcium salts, but they may be composed of other materials as well. Causes of stone formation include dehydration, infection, abnormal pH of urine, urinary stasis, and metabolic imbalances. The stones generally form in the kidney and may move to the bladder. This results in great pain, termed **renal colic**, and obstruction that can promote infection and cause **hydronephrosis**, collection of urine in the renal pelvis.

Because they are radiopaque, stones can usually be seen on simple radiographs of the abdomen. Stones may dissolve and pass out of the body on their own. If not, they may be removed surgically, in a **lithotomy**, or by endoscopy. External shock waves are used to crush stones in the urinary tract in a procedure called **extracorporeal (outside the body) shock-wave lithotripsy (crushing of stones)**.

## ■ CANCER

Carcinoma of the bladder has been linked<sup>1</sup> to occupational exposure to chemicals, parasitic<sup>2</sup> infections, and cigarette smoking. A key symptom is sudden, painless hematuria. Often, the cancer can be seen by viewing the bladder lining with a **cystoscope**. This instrument<sup>3</sup> can also be used to biopsy tissue for study.

If treatment is not effective in permanently removing the tumor, a **cystectomy** (removal of the bladder) may be necessary. In this case, the ureters must be vented elsewhere, such as directly to the body surface through the ileum in an **ileal conduit**<sup>4</sup>, or to some other portion of the intestine.

Cancer may also involve the kidney and renal pelvis. Additional means for diagnosing cancer and other urinary tract disorders include ultrasound, computed tomography scans, and radiographic studies such as **intravenous urography (IVU)**, also called **intravenous pyelography (IVP)**, and **retrograde**<sup>5</sup> **pyelography**.

## ■ URINALYSIS

**Urinalysis**<sup>1</sup> (**UA**) is a simple and widely used method for diagnosing urinary tract disorders. It may also reveal<sup>2</sup> disturbances<sup>3</sup> in other systems when abnormal byproducts are eliminated in the urine. In a routine UA, the urine is grossly<sup>4</sup> examined for color and turbidity<sup>5</sup> (a sign that bacteria are present); **specific gravity (SG)** (a measure of concentration) and pH are recorded; tests are performed for chemical components such as glucose, ketones, and hemoglobin; and the urine is examined microscopically for cells, crystals, and casts. In more detailed tests, drugs, enzymes, hormones, and other metabolites may be analyzed, and bacterial cultures may be performed.

هیچ لغت جدیدی نداره اینجا همشو

بلدی و باید بتونی ترجمه کنی!

۱- مرتبط بودن

۲- انگلی

۳- ابزار

۴- مجرا

۵- برگشتی

۱- آنالیز ادرار

۲- نشان دادن

۳- تداخل

۴- ماکروسکوپی

۵- کدورت



از این به هم وصل کنید‌های همیشگی هم یادت نره حل کنی!

\_\_\_ ۱. hematuria

\_\_\_ ۲. oliguria

\_\_\_ ۳. chromaturia

\_\_\_ ۴. albuminuria

\_\_\_ ۵. pyuria

۱). blood in the urine

۲). proteinuria

۳). elimination of small amounts of urine

۴). abnormal color of urine

۵). pus in the urine

Answer: ۱. A / ۲. C / ۳. D / ۴. B / ۵. E

اینم باز یه سری تست از همین مبحث! میخوام بهت ارزش این متن‌ها رو نشون بدم!

۱. A long-term kidney stone infection is called .....

۱) malignant pyelonephritis

۲) malignant glomerulonephritis

۳) chronic pyelonephritis

۴) chronic glomerulonephritis

۲. Pain and blood in urination are related to

.....and.....respectively. (قطب شمال - اسفند ۹۴)

۱) dysuria - hematuria

۲) nocturia - hematuria

۳) hematuria - dysuria

۴) hematuria) nocturia

۳. The passage of small amounts of urine is a condition described as.....

۱) Pyuria

۲) Oliguria

۳) Dysuria

۴) Polyuria

۴. Congenital absence of a bladder is .....

۱) acystia

۲) anuresis

۳) cystotome

۴) cystocele

۵. If a patient says, "I can't hold my water", s/he is suffering from urinary .....

۱) urgency

۲) hesitancy

۳) frequency

۴) incontinency

۶. The voiding of urine is technically called .....

۱) Micturition

۲) Gustation

۳) Gestation

۴) Accommodation

Answers: ۱. C, D / ۲. A / ۳. B / ۴. A / ۵. D / ۶. A

اینم یه متن ادراری (D) از «پزشکی شهرپور ۹۸» با موضوع هماچوری!!

Haematuria, whether microscopic or gross, may be a sign of urinary tract malignancy<sup>1</sup> or renal parenchymal disease. Accordingly, most physicians have a low threshold for working up any significant haematuria- but what degree of haematuria is significant enough to warrant a workup? Up to 18% of normal persons excrete<sup>2</sup> red blood cells into the urine, averaging approximately 2 million RBCs per 24 hours or 2RBCs per high power field. Moreover, improper collection and study can yield false- positive or -negative results. The trauma associated with exercise or jogging, for example, can cause an increase in urinary RBC excretion. It has been demonstrated<sup>3</sup> that if urine is stored for more than 2 and a half hours, 50% of RBCs will lyse and most casts in the sediment<sup>4</sup> will disintegrate<sup>5</sup>.

۱- بدخیمی

۲- دفع کردن

۳- نشان دادن

۴- رسوب

۵- متلاشی شدن



1. Which statement is not correct?

- A) There are two types of haematuria
- B) Healthy people do not discharge any RBCs
- C) Urinary tract cancer can be shown by haematuria
- D) Haematuria can indicate a problem with the functional parts of kidney

2. .... cannot be the cause of haematuria.

- A) Jogging
- B) Cycling
- C) Malignancies
- D) Sedimentation

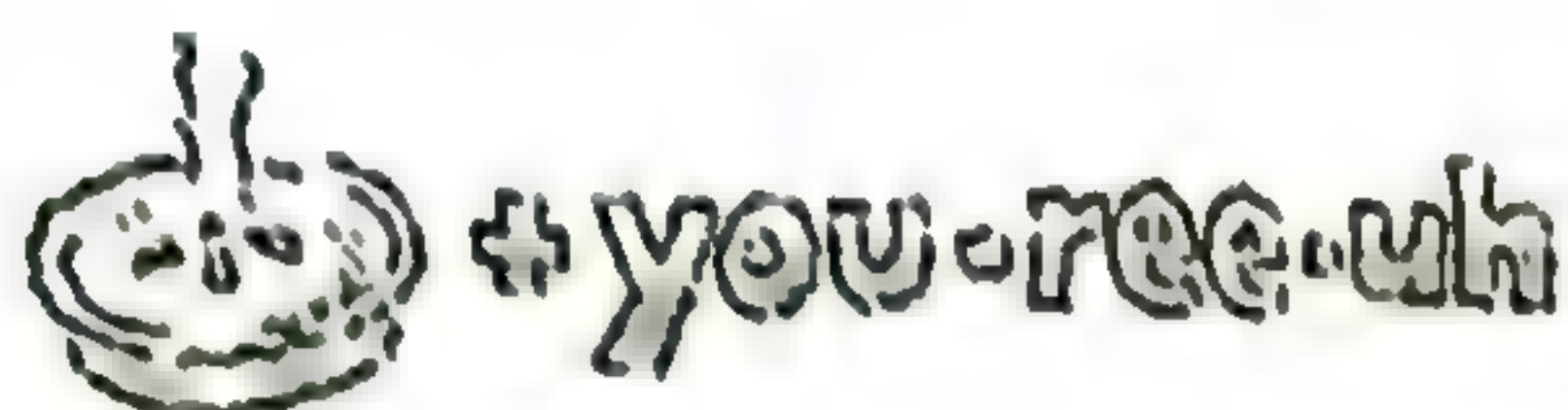
3. False- negative test result can be due to .....

- A) disintegration of RBCs
- B) Improper specimen collection
- C) abstaining from exercise
- D) long-term specimen storage

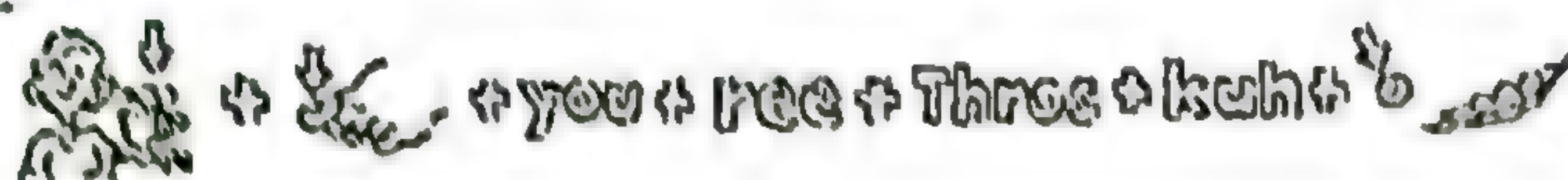
Answers: 1. B / 2. D / 3. B

اینم یه بازی کوچولو باحال!! بین میتونی حدس بزنی که عکس داره چه کلمه‌ای رو می‌گه؟

1.



2.



3.



4.



Answer:

- 1. Pyuria
- 2. Cystourethroscopy
- 3. cylux
- 4. Henle



## دستگاه تولید مثل و بارداری Reproductive System And Pregnancy

## فصل ۱۲ Unit 12

در اصل باید این مبحث دو یا سه فصل می‌بود ولی دیدم تستاش کمه در نتیجه سر هم کردم. در نهایت از این درس کلی لغت یاد میگیری. تست هم البته میذارم آخرش ولی جزو اولویت‌های آخرت بذار این مبحث رو.

♦ بررسی دستگاه تولید مثل مردان از نظر ساختاری و عملکردی:

### ■ INTRODUCTION

The function of the **gonads**<sup>1</sup> (sex glands) in both males and females is to produce the reproductive cells, the **gametes**<sup>2</sup>, and to produce hormones. The gametes are generated by **meiosis**, a process of cell division that halves<sup>3</sup> the chromosome number from 46 to 23. When male and female gametes unite in **fertilization**<sup>4</sup>, the original chromosome number is restored<sup>5</sup>.

Sex hormones aid in the manufacture<sup>6</sup> of gametes, function in pregnancy<sup>7</sup> and lactation<sup>8</sup>, and also produce the secondary sex characteristics such as the typical size, shape, body hair, and voice that we associate with the male and female genders.

The reproductive tract develops in close association with the urinary tract. In females, the two systems become completely separate, whereas the male reproductive and urinary tracts share a common<sup>9</sup> passage, the **urethra**. Thus, the two systems are referred together as the **genitourinary (GU)** or **urogenital (UG)** tract, and urologists are called on to treat disorders of the male reproductive system as well as those of the urinary system

۱- غدد جنسی

۲- گامت

۳- نصف کردن

۴- لقاح

۵- بازگرداندن

۶- تولید کردن

۷- بارداری

۸- شیردهی

۹- مشترک

### ■ THE TESTIS

The male germ cells, the sperm cells or **spermatozoa** (singular: spermatozoon), are produced in the paired<sup>1</sup> **testes** (singular: testis<sup>2</sup>) that are suspended<sup>3</sup> outside of the body in the **scrotum**<sup>4</sup>. Although the testes develop in the abdominal cavity, they normally descend through the **inguinal canal** into the scrotum before birth or shortly thereafter<sup>5</sup>.

From the start of sexual maturation<sup>6</sup>, or **puberty**<sup>7</sup>, spermatozoa form continuously within the testes in coiled<sup>8</sup> seminiferous tubules. Their development requires the aid of special **Sertoli cells** and male sex hormones, or **androgens**, mainly **testosterone**. These hormones are manufactured in **interstitial cells** located between the tubules. In both males and females, the gonads are stimulated by **follicle-stimulating hormone (FSH)** and **luteinizing hormone (LH)**, released from the anterior **pituitary**<sup>9</sup> gland beneath the brain. These hormones are chemically the same in males and females, although they are named for their actions in female reproduction. In males, FSH stimulates the Sertoli cells and promotes the formation of spermatozoa. LH stimulates the interstitial<sup>10</sup> cells to produce testosterone

۱- جفت

۲- بیضه

۳- آویزان

۴- کیسه بیضه

۵- بعد از آن

۶- بلوغ جنسی

۷- بلوغ

۸- پیچ خورده

۹- هیپوفیز

۱۰- بینابینی

### ■ TRANSPORT OF SPERMATOZOA

After their manufacture, sperm cells are stored in a much-coiled tube on the surface of each testis, the **epididymis**. Here, they remain until **ejaculation**<sup>1</sup> propels<sup>2</sup> them into a series of ducts that lead out of the body. The first of these is the **ductus (vas) deferens**, which is contained in the **spermatic cord** along with nerves and blood vessels that supply the testis. The spermatic cord ascends through the inguinal canal into the abdominal cavity, where the ductus deferens leaves the cord and travels behind the bladder.

A short continuation of the ductus deferens, the **ejaculatory duct**, delivers spermatozoa to the urethra as it passes through the **prostate gland** below the bladder. Finally, the cells, now mixed with other secretions, travel in the urethra through the penis to be released.

۱- انزال

۲- به پیش راندن



## ■ THE PENIS<sup>1</sup>

The penile<sup>2</sup> urethra transports both urine and semen<sup>3</sup>. The penis is the male organ of sexual intercourse<sup>4</sup>, or coitus<sup>4</sup>. It is composed of three segments of spongy tissue, which become engorged<sup>5</sup> with blood to produce an erection<sup>6</sup>, a stiffening<sup>7</sup> of the penis. The two corpora cavernosa are lateral bodies; the corpus spongiosum, through which the urethra travels, is in the center. The corpus spongiosum enlarges at the tip<sup>8</sup> to form the glans<sup>9</sup> penis, which is covered by loose skin—the prepuce<sup>10</sup>, or foreskin<sup>10</sup>. Surgery to remove the foreskin is circumcision<sup>11</sup>. This may be performed for medical reasons but is most often performed electively<sup>12</sup> in male infants for reasons of hygiene, cultural preferences<sup>13</sup>, or religion<sup>14</sup>.

## ■ FORMATION OF SEMEN

Semen is the thick<sup>1</sup>, whitish<sup>2</sup> fluid that transports spermatozoa. It contains, in addition to sperm cells, secretions from three types of accessory glands. Following the sequence of sperm transport, these are:

1. The paired seminal vesicles, which release their secretions into the ejaculatory duct on each side.
2. The prostate gland, which secretes into the first part of the urethra beneath the bladder. As men age, prostatic enlargement may compress the urethra and cause urinary problems.
3. The two bulbourethral (Cowper) glands, which secrete into the urethra just below the prostate gland.

Together, these glands produce a slightly alkaline mixture that nourishes<sup>3</sup> and transports the sperm cells and also protects them by neutralizing<sup>4</sup> the acidity of the female vaginal tract.

## ◆ بررسی دستگاه تولید مثل مردان از نظر بالینی:

## ■ INFECTION

Most infections of the male reproductive tract are sexually transmitted infections (STIs). The most common STI in the United States is caused by the bacterium *Chlamydia trachomatis*, which mainly causes urethritis in males. This same organism also causes lymphogranuloma venereum, an STI associated with lymphadenopathy, which occurs most commonly in tropical<sup>1</sup> regions. Both forms of these chlamydial infections respond to treatment with antibiotics.

Gonorrhea<sup>2</sup> is caused by *Neisseria gonorrhoeae*, the gonococcus (GC). Infection usually centers in the urethra, causing urethritis with burning<sup>3</sup>, a purulent<sup>4</sup> discharge, and dysuria. Mumps is a nonsexually transmitted viral disease that can infect the testes and lead to sterility<sup>5</sup>. Other microorganisms can infect the reproductive tract as well, causing urethritis, prostatitis, orchitis, or epididymitis.

## ■ BENIGN PROSTATIC HYPERPLASIA

As men age, the prostate gland commonly enlarges, a condition known as benign prostatic hyperplasia (BPH). Although not cancerous, this overgrown tissue can press on the urethra near the bladder and interfere with urination. Urinary retention<sup>1</sup>, infection, and other complications may follow if an obstruction is not corrected. Medications to relax smooth muscle in the prostate and bladder neck are used to treat the symptoms of BPH.

In advanced cases of BPH, removal<sup>2</sup> of the prostate, or prostatectomy, may be required. BPH is diagnosed by digital<sup>3</sup> rectal examination (DRE) or imaging studies.

۱- آلت تناسلی

۲- مربوط به آلت تناسلی

۳- مایع منی / ۴- مقاربت

۵- ایداشته شدن / ۶- نعوظ

۷- سفت شدن / ۸- نوک

۹- حشفه، کلاهک آلت / ۱۰- پیش‌پوست

۱۱- ختنه / ۱۲- انتخابی

۱۳- ترجیح فرهنگی / ۱۴- دینی

۱- غلیظ

۲- سفید

۳- تغذیه کردن

۴- خنثی کردن

۱- استوایی

۲- سوزاک

۳- سوزش

۴- چرک

۵- عفیمی

۱- احتباس

۲- برداشت

۳- انگشتی



## ■ CRYPTORCHIDISM

It is fairly<sup>1</sup> common that one or both testes will fail to descend into the scrotum by the time of birth. This condition is termed **cryptorchidism**, literally hidden (crypt/o) testis (orchid/o). The condition usually corrects itself within the first year of life. If not, it must be corrected surgically to avoid sterility and an increased risk of cancer.

۱- نسبتا

## ■ INFERTILITY

An inability or a diminished<sup>1</sup> ability to reproduce is termed **infertility**<sup>2</sup>. Its causes may be hereditary, hormonal, disease-related, or the result of exposure to chemical or physical agents. The most common causes of infertility are STIs. A total inability to produce offspring may be termed sterility. Men may be voluntarily<sup>3</sup> sterilized by cutting and sealing<sup>4</sup> the vas deferens on both sides in a **vasectomy**.

۱- کاهش یافته

۲- ناباروری

۳- اختیاری

۴- بستن

## ■ INGUINAL HERNIA

The inguinal canal, through which the testis descends, may constitute<sup>1</sup> a weakness in the abdominal wall that can lead to a hernia. In the most common form of **inguinal hernia**, an abdominal organ, usually the intestine, enters the inguinal canal and may extend into the scrotum. This is an indirect, or external, inguinal hernia. In a direct, or internal, inguinal hernia, the organ protrudes<sup>2</sup> through the abdominal wall into the scrotum. If blood supply to the organ is cut off, the hernia is said to be **strangulated**<sup>3</sup>. Surgery to correct a hernia is a **herniorrhaphy**.

۱- تشکیل دادن

۲- بیرون زدن

۳- خفه شدن

اینایه سری ریشه مربوط به دستگاه تولید مثل مردان:

Root	Meaning	Example	Definition of Example
test/o	بیضه	testosterone (تستوسترون)	هورمونی که در بیضه تولید می شود
,orchi/o orchid/o	بیضه	anorchism (آنورکیسم)	فقدان بیضه
osche/o	کیسه بیضه	oscheal (اوسکیال)	مربوط به اسکروتوم
semin	مایع منی	inseminate (اینسمینیت)	در معرض اسپرم قرار گرفتن واژن
sperm/i, spermat/o	مایع منی، اسپرم	polyspermia (پلی اسپرمیا)	ترشح بیش از حد منی
epididym/o	اپیدیدیم	epididymitis (اپیدیدیمایتیس)	التهاب اپیدیدیمایتیس
vas/o	واژ دفران، رگ	vasostomy (وازوستومی)	ایجاد منفذ در واژ دفران به کمک جراحی
vesicl/o	وزیکول سمینال	vesiculogram (وزیکولوگرام)	رادیوگراف از وزیکول سمینال
prostat/o	پروستات	prostatometer (پروستاتومیتتر)	ابزاری جهت اندازه گیری پروستات



یه سوال کوچیک هم حل کنین

۱. pain in the prostate  
۲. plastic repair of scrotum  
۳. surgical fixation of a testis  
۴. destruction (-lysis) of sperm  
۵. heamosperma is the presence of blood in the \_\_\_\_

Answer: ۱. Prostatodynia / ۲. Oscheoplasty / ۳. Orchiopexy / ۴. Spermolysis / ۵. Semen

از این به هم وصل کنیدهای همیشگی هم یادت نره حل کنی!

۱. vasectomy  
۲. circumcision  
۳. coitus  
۴. glans  
۵. priapism  
۶. balanitis  
۷. excision of the ductus deferens  
۸. surgical removal of the foreskin  
۹. end of the penis  
۱۰. sexual intercourse  
۱۱. prolonged erection of the penis  
۱۲. inflammation of the glans penis

Answer: ۱. A / ۲. B / ۳. D / ۴. C / ۵. E / ۶. F

♦ بررسی دستگاه تولید مثل زنان از نظر ساختاری و عملکردی:

## ■ THE FEMALE REPRODUCTIVE SYSTEM

The female gonads are the paired ovaries (singular: ovary<sup>1</sup>) that are held by ligaments<sup>2</sup> in the pelvic cavity on either side of the uterus. It is within the ovaries that the female gametes, the eggs or ova (singular: ovum<sup>3</sup>), develop. At the time of ovulation, usually only one ovum is released from an ovary, and the remainder of the ripening<sup>4</sup> ova degenerate. The follicle remains behind and continues to function for about two weeks if the ovum is not fertilized and for about two months if the ovum is fertilized.

After ovulation, the ovum travels into a uterine tube, also called the fallopian tube, attached to the upper lateral portion of the uterus. This tube arches<sup>5</sup> above the ovary and has finger-like projections<sup>6</sup> called fimbriae that sweep<sup>7</sup> the released ovum into the uterine tube. The uterus is the organ that nourishes the developing offspring. It is with a lower narrow cervix<sup>8</sup> that projects into the vagina<sup>9</sup>. At the posterior cervix, the peritoneum dips<sup>10</sup> downward to form a blind pouch<sup>11</sup>, the lowest point of the peritoneal cavity. This region is also called the *rectouterine pouch*.

The innermost layer of the uterine wall, the endometrium, has a rich blood supply. It receives the fertilized<sup>12</sup> ovum and becomes part of the placenta<sup>13</sup> during pregnancy. The endometrium is shed<sup>14</sup> during the menstrual period<sup>15</sup> if no fertilization occurs. The muscle layer of the uterine wall is the myometrium.

In both males and females, the region between the thighs<sup>16</sup> from the external genital organs to the anus is the perineum. During childbirth, an incision may be made between the vagina and the anus to facilitate<sup>17</sup> birth and prevent the tearing<sup>18</sup> of tissue, a procedure called an *episiotomy*. (This procedure is actually a perineotomy, as the root *episi/o* means "vulva.")

## ■ THE MENSTRUAL CYCLE

Female reproductive activity normally begins during puberty<sup>1</sup> with menarche<sup>2</sup>, the first menstrual period. Each month, the menstrual cycle is controlled, as is male reproductive activity, by hormones from the anterior pituitary gland.

FSH begins the cycle by causing the ovum to ripen in the ovarian follicle. The follicle secretes estrogen, a hormone that starts endometrial development in preparation for the fertilized egg.

- ۱- تخمدان / ۲- رباط  
۳- تخمک / ۴- کامل شدن  
۵- قوس زدن  
۶- بیرون زدگی  
۷- جارو کردن  
۸- گردن رحم  
۹- واژن  
۱۰- پایین آمدن  
۱۱- کیسه بن بست  
۱۲- بارور  
۱۳- جفت  
۱۴- ریزش  
۱۵- دوره قاعدگی  
۱۶- ران  
۱۷- تسهیل کردن  
۱۸- پاره کردن

- ۱- بلوغ  
۲- اولین دوره قاعدگی



A second pituitary hormone, LH, triggers ovulation and conversion<sup>3</sup> of the follicle to the corpus luteum<sup>4</sup>. This structure, left behind in the ovary, secretes progesterone and estrogen, which further the endometrial growth. If no fertilization occurs, hormone levels decline, and the endometrium sloughs off<sup>5</sup> in the process of menstruation<sup>6</sup>.

- ۳- تبدیل
- ۴- جسم زرد
- ۵- ریزش کردن
- ۶- خونریزی، قاعدگی

## • Menopause

Menopause<sup>1</sup> is the cessation<sup>2</sup> of monthly menstrual cycles. This change generally occurs between the ages of 45 and 55 years. Reproductive hormone levels decline, and ovarian ova gradually degenerate. Some women experience unpleasant<sup>3</sup> symptoms, such as hot flashes<sup>4</sup>, headaches<sup>5</sup>, insomnia<sup>6</sup>, mood swings<sup>7</sup>, and urinary problems. There is also some atrophy of the reproductive tract with vaginal dryness<sup>8</sup>. Most importantly, the decline in estrogen levels is associated with bone weakening<sup>9</sup> (osteoporosis).

- ۱- یانستگی / ۲- قطع
- ۳- ناخوشایند / ۴- گرگرفتگی
- ۵- سردرد / ۶- بی خوابی
- ۷- تغییر خلق / ۸- خشکی
- ۹- ضعف استخوان

## ■ CONTRACEPTION

Contraception<sup>1</sup> is the use of artificial methods to prevent fertilization of the ovum or its implantation<sup>2</sup> in the uterus. Temporary<sup>3</sup> methods of birth control function to:

- Block sperm penetration<sup>4</sup> of the uterus (e.g., condom, diaphragm).
- Prevent implantation of the fertilized egg (e.g., intrauterine device or IUD).
- Prevent ovulation (e.g., hormones). Hormonal methods differ in dosage and route of delivery, such as oral intake (the birth control pill), injection, skin patch, and vaginal ring.

- ۱- پیشگیری از بارداری
- ۲- کاشته شدن
- ۳- موقت
- ۴- نفوذ

The so-called morning-after pill is intended<sup>5</sup> for emergency contraception. It considerably reduces the chance of pregnancy if taken within 72 hours after unprotected sexual intercourse. Surgical sterilization<sup>6</sup> provides the most effective and usually permanent<sup>7</sup> contraception. In males, this procedure is a vasectomy; in females, surgical sterilization is a tubal ligation<sup>8</sup>, in which uterine tubes are cut and tied on both sides.

- ۵- تعبیه شدن
- ۶- عقیمی
- ۷- دائمی
- ۸- بستن لوله
- ۹- سقط جنین

RU486 (mifepristone) terminates an early pregnancy by blocking progesterone, causing the endometrium to break down. Technically, RU486 is an abortion<sup>9</sup>-causing agent (abortifacient), not a contraceptive.

◆ بررسی دستگاه تولید مثل زنان از نظر بالینی:

## ■ INFECTION

Genital herpes is a presently<sup>1</sup> incurable<sup>2</sup> viral infection that affects over 25 percent of adults in the United States. Once infection occurs, the virus lives in the nervous system, causing intermittent<sup>3</sup> outbreaks<sup>4</sup> that may include genital sores, itching<sup>5</sup>, burning, and urinary problems. The virus is easily spread to sexual partners even if there are no active signs of the disease. Pregnant women can pass the virus to their babies during delivery, resulting in possible disabilities and even death. Some basic hygiene<sup>6</sup> measures and condom use can reduce viral spread.

- ۱- در حال حاضر
- ۲- غیرقابل درمان
- ۳- متناوب
- ۴- عود کردن
- ۵- خارش
- ۶- بهداشت



A fungus that infects the vulva and vagina is *Candida albicans*, causing candidiasis. The resultant vaginitis, inflammation of the vagina, causes itching and release of a thick, white, cheesy discharge<sup>1</sup>. Pregnancy, diabetes mellitus, and use of antibiotics, steroids, or birth control pills predispose<sup>2</sup> to this infection. Antifungal agents (mycostatics) are used in treatment.

Pelvic inflammatory disease (PID) is the spread of infection from the reproductive organs into the pelvic cavity. It is most often caused by the gonorrhea organism or by *Chlamydia*, although bacteria normally living in the reproductive tract may also be responsible when conditions allow. PID is a serious disorder that may result in septicemia or shock. Inflammation of the uterine tubes, called salpingitis, may close off these tubes and cause infertility.

## ■ ENDOMETRIOSIS

Growth of endometrial tissue outside the uterus is termed endometriosis. Commonly, the ovaries, uterine tubes, peritoneum, and other pelvic organs are involved. Stimulated by normal hormones, the endometrial tissue causes inflammation, fibrosis, and adhesions in surrounding areas. The results may be pain, dysmenorrhea (painful or difficult menstruation), and infertility.

## ■ MENSTRUAL DISORDERS

Menstrual abnormalities include flow that is too scanty<sup>1</sup> (oligomenorrhea) or too heavy<sup>2</sup> (menorrhagia) and the absence<sup>3</sup> of monthly periods (amenorrhea). Dysmenorrhea, when it occurs, usually begins at the start of menstruation and lasts one to two days. Together, these disorders are classified as dysfunctional uterine bleeding (DUB). These responses may be caused by hormone imbalances, systemic disorders, or uterine problems. They are most common in adolescence<sup>4</sup> or near menopause. At other times, they are often related to life changes and emotional upset<sup>5</sup>.

Premenstrual<sup>6</sup> syndrome (PMS) describes symptoms that appear during the menstrual cycle's second half and includes emotional changes, fatigue, bloating<sup>7</sup>, headaches, and appetite<sup>8</sup> changes. Possible causes of PMS have been under study. Symptoms may be relieved by hormone therapy, antidepressants, or anti-anxiety medications. Exercise, dietary control, rest, and relaxation strategies may also be helpful. Avoiding caffeine and taking vitamin E supplements may relieve breast tenderness; one should also drink adequate water and limit salt intake.

## ■ POLYCYSTIC OVARIAN SYNDROME

Polycystic ovarian syndrome (PCOS) is discussed here because the first-described symptoms of this disorder were enlarged ovaries with multiple cysts. These signs are not always present in PCOS, although the ovaries do show abnormalities. PCOS is an endocrine disorder involving increased androgen and estrogen secretion that interferes with normal secretion of pituitary FSH and LH. Some effects include:

- Anovulation<sup>1</sup> and infertility
- Scant or absent menses (oligomenorrhea or amenorrhea)
- Excessive hair growth (hirsutism), caused by excess androgen (male hormone)
- Resistance<sup>2</sup> to insulin, a hormone that lowers blood sugar, resulting in symptoms of diabetes mellitus
- Obesity<sup>3</sup>

۷- نوزح پسری معبد

۸- مستعد کردن

۱- کم

۲- زیاد

۳- فقدان

۴- جوان

۵- ناراحتی احساسی

۶- پیش از قاعدگی

۷- نفخ

۸- اشتها

۱- عدم تخمک گذاری

۲- مقاومت

۳- چاقی



اینا به سری ریشه مربوط به دستگاه تولید مثل زنان و تخمدان:

Root	Meaning	Example	Definition of Example
gyn/o gynec/o	زن	gynecology (گاینکولوژی)	مطالعه بیماری‌های زنان
men/o, mens	ماه، قاعدگی	premenstrual (پری منستچرال)	قبل از دوره قاعدگی
oo	تخمک	oocyte (اووسایت)	سلول‌هایی که تخمک را ایجاد می‌کنند
ov/o, ovul/o	تخمک	anovulatory (آن‌اوولیتتری)	فقدان تکامل تخمک یا تخمک گذاری
ovari/o	تخمدان	ovariopexy (اوواریوپکسی)	فیکساسیون تخمدان به کمک جراحی
oophor/o	تخمدان	oophorectomy (اوفورکتومی)	برداشت تخمدان

اینا هم به سری ریشه مربوط به لوله رحمی، رحم و واژن:

Root	Meaning	Example	Definition of Example
salping/o	لوله رحمی	Salpingoplasty (سالپینگوپلاستی)	ترمیم پلاستیک لوله رحمی
uter/o	رحم	intrauterine (اینترایوتراین)	درون رحم
metr/o, metr/i	رحم	metrorrhea (مترورنئا)	ترشح غیرطبیعی رحم
hyster/o	رحم	hysterotomy (هیستروتومی)	برش رحم
cervic/o	گردن رحم، گردن	endocervical (اندوسرویکال)	مربوط به پوشش گردن رحم
vagin/o	واژن	vaginometer (واژینومیتر)	ابزاری برای اندازه گیری واژن
colp/o	واژن	colpostenosis (کولپوستنوزیس)	تنگی واژن



این نیز به سری ریشه مربوط به ساختارهای فرعی زنان:

Root	Meaning	Example	Definition of Example
vulv/o	وولو	vulvar (وولوار)	مربوط به وولو
episi/o	وولو	epistotomy (اپیستوتومی)	برش وولو
perine/o	پرینه	perineal (پرینئال)	مربوط به پرینه
clitor/o clitorid/o	کلیتوریس	clitorectomy (کلیتوریکتومی)	برداشت کلیتوریس
mamm/o	پستان، غدد پستانی	mammoplasty (ماموپلاستی)	جراحی پلاستیک پستان
mast/o	پستان، غدد پستانی	amastia (ای مستیا)	فقدان پستان

به سوال کوچک هم حل کنین

۱. rupture (-rhexis) of and ovary

۲. scanty menstrual flow

۳. enlargement of the clitoris

۴. suture of the vulva (episi/o)

۵. absence of the breast (mast/o)

Answer: ۱. Ovarirrhesis / ۲. oligomenorrhea / ۳. Clitoromegaly / ۴. Episirrhaphy / ۵. Amastia

### ♦ بررسی بارداری و تولد از نظر ساختاری و عملکردی:

#### ■ FERTILIZATION AND EARLY DEVELOPMENT

Penetration of an ovulated egg cell by a spermatozoon results in **fertilization**<sup>1</sup>. This union<sup>2</sup> normally occurs in the uterine tube. The nuclei of the sperm and ovum fuse<sup>3</sup>, restoring the chromosome number to 46 and forming a **zygote**. As the zygote travels through the uterine tube toward the uterus, it divides rapidly. Within six to seven days, the fertilized egg reaches the uterus and implants into the endometrium, and the **embryo**<sup>4</sup> begins to develop. After two months, placental hormones take over this function, and the corpus luteum degenerates. At this time, the embryo becomes a **fetus**<sup>5</sup>.

۱- لقاح

۲- پیوستگی، وصلت

۳- ادغام شدن

۴- رویان

۵- جنین

#### ■ THE PLACENTA

During development<sup>1</sup>, the fetus is nourished by the **placenta**, an organ formed from the embryo's outermost layer, the **chorion**, and the endometrium, the innermost layer of the uterus. Here, exchanges take place between the bloodstreams of the mother and the fetus through fetal capillaries.

۱- تکوین

The **umbilical cord**<sup>2</sup> contains the blood vessels that link the fetus to the placenta. Fetal blood is carried to the placenta in two umbilical arteries. While traveling through the placenta, the blood picks up nutrients and oxygen and gives up carbon dioxide and metabolic waste. Replenished<sup>3</sup> blood is carried from the placenta to the fetus in a single umbilical vein.

۲- بند ناف

۳- دوباره پر شدن

During **gestation**<sup>4</sup> (the period of development), the fetus is cushioned and protected by fluid contained in the **amniotic sac** (amnion). This sac ruptures at birth.

۴- بارداری



## ■ CHILDBIRTH

The length of pregnancy, from fertilization of the ovum to birth, is about 38 weeks, or 266 days. In practice, it is calculated as approximately 280 days or 40 weeks from the first day of the last menstrual period (LMP). For study purposes, pregnancy is divided into three-month periods (trimesters), during which defined changes can be observed in the fetus. Childbirth, or parturition<sup>1</sup>, occurs in three stages:

1. Onset of regular uterine contractions and dilation of the cervix
2. Expulsion<sup>2</sup> of the fetus
3. Delivery of the placenta and fetal membranes

۱- زایمان

۲- خروج

The third stage of childbirth is followed by contraction of the uterus and control of bleeding. The factors that start labor<sup>1</sup> are not completely understood, but it is clear that the hormone oxytocin from the posterior pituitary gland and other hormones called prostaglandins are involved.

۱- درد زایمان، زایمان

The term **gravida** refers to a pregnant<sup>2</sup> woman. The term **para** refers to a woman who has given birth. This means the production of a viable<sup>3</sup> infant (500 g or more or over 20 weeks gestation) regardless of whether the infant is alive at birth or whether the birth is single or multiple. Prefixes are added to both terms to indicate the number of pregnancies or births, such as:

۲- باردار

۳- زیست پذیر

nulli (none) / primi (one) / secundi (two) / tri or terti (three) / quadri (four) / multi (two or more)

Alternatively<sup>4</sup>, a number can be added after the term to indicate events, such as gravida 1, para 3, and ...

۴- از سوی دیگر

## ■ LACTATION

The hormone prolactin from the anterior pituitary gland, as well as hormones from the placenta, start the secretion of milk from the breasts, called lactation<sup>1</sup>. The baby's suckling<sup>2</sup> then stimulates milk release. The pituitary hormone oxytocin is needed for this release or "letdown" of milk. For the first few days after delivery<sup>3</sup>, only colostrum<sup>4</sup> is produced. This has a slightly different composition than milk, but like the milk, it has protective antibodies.

۱- شیردهی

۲- مکیدن

۳- زایمان

۴- آغوز

◆ بررسی دستگاه تولید مثل زنان از نظر بالینی:

## ■ INFERTILITY

About 10 to 15 percent of couples who want children are unable to conceive<sup>1</sup> or to sustain<sup>2</sup> a pregnancy. In men, these causes include low sperm count, low sperm motility<sup>3</sup> blockage of the ducts that transport the sperm cells, and erectile dysfunction<sup>4</sup>.

۱- انعقاد نطفه

۲- حفظ

۳- تحرک

۴- اختلال نعوظ

In women they include:

- Lack of ovulation
- Blockage in the uterine tubes, as caused by infection or excess growth of tissue
  - Uterine problems, such as tumors or abnormal growth of endometrial tissue
  - Cervical scarring or infection
- Excess vaginal acidity, which harms spermatozoa, or antibodies to sperm cells
- Drugs, including temporary or permanent infertility following cessation of birth control pills



## ■ ECTOPIC PREGNANCY

Development of a fertilized egg outside of its normal position in the uterine cavity is termed an **ectopic pregnancy**<sup>1</sup>. Although it may occur elsewhere in the abdominal cavity, an ectopic pregnancy usually occurs in the uterine tube, resulting in a tubal pregnancy. Salpingitis, endometriosis, and PID may lead to ectopic pregnancy by blocking the ovum's passage into the uterus. Continued growth will rupture the tube, causing dangerous hemorrhage. Symptoms of ectopic pregnancy are pain, tenderness, swelling, and shock. Diagnosis is by measurement of the hormone hCG and **ultrasonography**, confirmed by laparoscopic examination. Prompt surgery is required, sometimes including removal of the tube.

۱- بارداری نابه جا

## ■ PLACENTAL ABNORMALITIES

If the placenta attaches near or over the cervix instead of in the upper portion of the uterus, the condition is termed **placenta previa**<sup>1</sup>. This disorder may cause bleeding later in the pregnancy. If bleeding is heavy, it may be necessary to terminate the pregnancy.

۱- جفت سرراهی

**Placental abruption**<sup>2</sup> describes premature<sup>3</sup> separation of the placenta from its point of attachment. The separation causes hemorrhage, which, if extensive, may result in fetal or maternal death or a need to end the pregnancy. Causative factors include injury, maternal hypertension, and advanced maternal age.

۲- افتادگی جفت

۳- زودرس

## ■ MASTITIS

Inflammation of the breast, or **mastitis**, may occur at any time but usually occurs in the early weeks of breast-feeding. It is commonly caused by staphylococcal or streptococcal bacteria that enter through cracks<sup>1</sup> in the nipple<sup>2</sup>. The breast becomes red, swollen<sup>3</sup>, and tender, and the patient may experience chills, fever, and general discomfort.

۱- شکاف

۲- نوک پستان

۳- متورم

## ■ CONGENITAL DISORDERS

**Congenital disorders**<sup>1</sup> are those present at birth (birth defects<sup>2</sup>). They fall into two categories:

۱- اختلالات مادرزادی (خدادادی)

- Developmental disorders that occur during fetal growth
- Hereditary<sup>3</sup> (familial) disorders that can be passed from parents to children through the germ cells

۲- نواقص تولد

۳- ارثی

۴- ناقل

A **carrier**<sup>4</sup> of a genetic disorder is an individual who has a genetic defect that does not appear but that can be passed to offspring. Laboratory tests can identify carriers of some genetic disorders.

**Teratogens** are factors that cause malformations in the developing fetus. These include infections—such as rubella, herpes simplex, and syphilis—alcohol, drugs, chemicals, and radiation. The fetus is most susceptible to teratogenic effects during the first three months of pregnancy.

Examples of developmental disorders are **atresia** (absence or closure of a normal body opening), **anencephaly** (absence of a brain), **cleft lip**<sup>5</sup>, **cleft palate**<sup>6</sup>, and congenital heart disease.

۵- شکاف لب (لب شکری)

۶- شکاف کام

Note that folic acid or folate, a B vitamin, can prevent embryonic spinal malformations, known as neural tube defects. This vitamin is found in vegetables, liver, legumes, and seeds, but it is now added to some commercial<sup>7</sup> foods, including cereals and breads, to provide young women with this vitamin early on in case they become pregnant.

۷- تجاری



یه سری ریشه هم مربوط به بارداری و تولد:

Root	Meaning	Example	Definition of Example
amnio	آمنیون، کیسه آمنیون	diamniotic (دای آمنیوتیک)	مشاهده دو کیسه آمنیون
embryo/o	رویون	embryonic (امبریونیک)	مربوط به رویون
fet/o	جنین	fetometry (فیتومتری)	اندازه گیری جنین
toc/o	زایمان	dystocia (دیتوسیا)	زایمان سخت
nat/i	تولد	neonate (نئونیت)	نوزاد
lact/o	شیر	lactose (لاکتوز)	قند موجود در شیر
galact/o	شیر	galactagogue (گالاکتوگوگ)	دارو جهت افزایش جریان شیر
gravida	زن باردار	nulligravida (نالی گراویدا)	زنی که هیچگاه باردار نبوده
para	زنی که زایمان کرده	multipara (مولتی پارا)	زنی که دو یا بیشتر زایمان داشته

یه به هم وصل کنید جمع بندی طور حل کن بریم سراغ تست:

\_\_\_ ۱. vulva

\_\_\_ ۲. gestation

\_\_\_ ۳. oxytocin

\_\_\_ ۴. zygote

\_\_\_ ۵. clitoris

\_\_\_ ۶. menostasis

\_\_\_ ۷. metrorrhagia

\_\_\_ ۸. menarche

\_\_\_ ۹. gynecogenic

\_\_\_ ۱۰. metratrophia

۱. fertilized egg

۲. female erectile tissue

۳. external female genitalia

۴. period of development in the uterus

۵. hormone that stimulates labor

۶. first menstrual period

۷. excess uterine bleeding

۸. suppression of menstruation

۹. wasting of uterine tissue

۱۰. producing female characteristics

Answer: ۱. C / ۲. D / ۳. E / ۴. A / ۵. B / ۶. C / ۷. B / ۸. A / ۹. E / ۱۰. D



اینم باز به سری تست از همین مهجنا میخوام بهت ارزش این متن ها رو نشون بدم

1. One of the conditions associated with male reproductive system is "Spermatorrhea" which refers to .....

- 1) Having sperm in the urine
- 2) Destruction of the sperm cells
- 3) Excessive discharge of sperm
- 4) Formation of spermatozoa

پزشکی

2. Using lubrication, the index finger is gently inserted into the rectum. The prostate is ....., and any nodules, indurations or asymmetry should be noted.

- 1) Touched
- 2) Visualized
- 3) Palpated
- 4) Detected

پزشکی

3. The effects of environment on infertility continue to be studied and....

- 1) proscribe
- 2) disregard
- 3) debate
- 4) regretted

میان دوره کنونی - آریستو

4. Excessive uterine bleeding, both at the usual time of menstrual periods and at other irregular intervals.....

- 1) menorrhagia
- 2) menometrorrhagia
- 3) metrorrhagia
- 4) polymenorrhea

پزشکی

5. Mrs. Akbari was undergoing a normal vaginal delivery. Her gynecologist performed a (an) ..... to facilitate the procedure.

- 1) episiotomy
- 2) clitorrectomy
- 3) laparotomy
- 4) vulvotomy

پزشکی

6. Use of artificial methods to prevent fertilization is termed:

- 1) Antiception
- 2) Interruption
- 3) Coitus
- 4) Contraception

پزشکی

7. Which of the following indicates the use of surgery in order to provide permanent contraception in both male and female volunteers?

- 1) Tubal ligation
- 2) Vasectomy
- 3) Hormonal replacement
- 4) Sterilization

پزشکی

8. "Which of the following terms refers to "scanty menstrual flow?"

- 1) Dysmenorrhea
- 2) Oligomenorrhea
- 3) amenorrhea
- 4) hypomenorrhea

میان دوره کنونی - خروار

9. Which of the following is the term for abnormally large breasts in men?

- 1) Gynecomastia
- 2) Gynecomania
- 3) Gynephobia
- 4) Gynoplastics

پزشکی

10. The patient's complaint of painful menstrual periods is documented in the medical record as

- 1) Amenorrhea
- 2) Dysmenorrhea
- 3) Menorrhagia
- 4) Menorrhea

پزشکی



۱۱. Which of the following words is different from the others in terms of body systems?

- ۱) Hysterectomy
- ۲) Salpingitis
- ۳) C-section
- ۴) Fibrillation

پزشکی

۱۲. "Difficult labor" is medically called .....

- ۱) Eclampsia
- ۲) Dyspareunia
- ۳) Dystocia
- ۴) Metratrophia

پزشکی

۱۳. The medical term applied for describing the period of development of the young in viviparous animals is .....

- ۱) lactation
- ۲) gestation
- ۳) propagation
- ۴) pronation

پزشکی

۱۴. Which of the following is a surgical procedure in which a pendulous breast is lifted and fixed to the chest wall?

- ۱) Mastostomy
- ۲) Mastotomy
- ۳) Mastectomy
- ۴) Mastopexy

پزشکی

۱۵. The process by which the fetus and placenta are pushed out of the uterus is called:

- ۱) Presentation
- ۲) Labor
- ۳) Miscarriage
- ۴) Induction

پزشکی

۱۶. The suffix '-tocia' in the medical term 'xerotocia' refers to the condition of .....

- ۱) labor
- ۲) fear
- ۳) rotation
- ۴) speech

پزشکی

۱۷. Pregnancy outside mother's uterus is called.....

- ۱) Multigravida
- ۲) Extra tubal pregnancy
- ۳) Multiparous
- ۴) Ectopic pregnancy

پزشکی

۱۸. Inflammation of tissue near the uterus is .....

- ۱) Parabiosis
- ۲) Parametritis
- ۳) Paradoxical
- ۴) Parachronism

پزشکی

۱۹. "A patient was diagnosed with breast cancer. The doctor recommended the removal of the mass. The medical term used to this procedure is ...

- ۱) Lumpectomy
- ۲) Lithotherapy
- ۳) Endoscopy
- ۴) Mastectomy

پزشکی

۲۰. The placenta also functions as a defense mechanism against certain pathologic microorganisms and ..... substances.

- ۱) Natural
- ۲) Noxious
- ۳) Dormant
- ۴) Doubtful

پزشکی

۲۱. Mrs. Asadi is a gravida 3 para 2. This means:

- ۱) She has five children from three pregnancies
- ۲) She has two children and three pregnancies
- ۳) She has three pregnancies and two births
- ۴) She has one set of twins

پزشکی

۲۲. The normal labor or ..... Is a desirable issue in Pregnancy and Birth.

- ۱) nullipara
- ۲) neonate
- ۳) eutocia
- ۴) lactation

پزشکی

Answers: ۱. C / ۲. C / ۳. C / ۴. B / ۵. A / ۶. D / ۷. D / ۸. B / ۹. A / ۱۰. B / ۱۱. D / ۱۲. D / ۱۳. C / ۱۴. B / ۱۵. B / ۱۶. A / ۱۷. D / ۱۸. B / ۱۹. B / ۲۰. C / ۲۱. A / ۲۲. C



اینم یه متن از «پزشکی قلبی». متن قدیمی هم خودتی !!

One of the medicine's fundamental<sup>1</sup> beliefs about pregnancy and the development of the human fetus has been challenged<sup>2</sup>. Until recently, it was thought that the fetus was a parasite, capable of extracting<sup>3</sup> all the nutrients it needed from the mother. It is now realized that adequate nutrition during the entire course<sup>4</sup> of pregnancy is required for proper fetus development. In early pregnancy, certain changes occur in the mother's gastrointestinal tract, resulting in more efficient absorption of specific nutrients, such as iron and calcium. Furthermore, the maternal blood supply increases, so that nutrients can be transported via the uterine and placental blood systems. If the mother is undernourished, this "lifeline" to the fetus will be inadequately<sup>5</sup> developed. Finally, fat is accumulated within the body to store the energy necessary for lactation. This preparation for lactation is so important that if the mother is inadequately nourished, it will take place even at the expense<sup>6</sup> of fetal growth, suggesting that fetal growth is of less priority<sup>7</sup>.

۱- اساسی

۲- به چالش کشیده شدن

۳- استخراج کردن

۴- دوره

۵- ناکافی

۶- به خرج

۷- اهمیت، اولویت

۱. According to the passage, which of the following traditional beliefs has been questioned?

- ۱) The fetus can take all its necessary nutrients from the mother
- ۲) The fetus does not grow unless lactation occurs
- ۳) Adequate nutrition is necessary during pregnancy
- ۴) Important changes occur in early pregnancy

۲. It is stated in the passage that ..... is required for lactation.

- ۱) Iron and calcium supply
- ۲) An increased blood supply
- ۳) Fat storage
- ۴) A well-nourished placenta

۳. The term "lifeline" mentioned in line 8, refers to mother's

.....

- ۱) Gastrointestinal tract
- ۲) Uterine and placental blood supply systems
- ۳) Adequate nutrition
- ۴) Absorption of specific nutrients

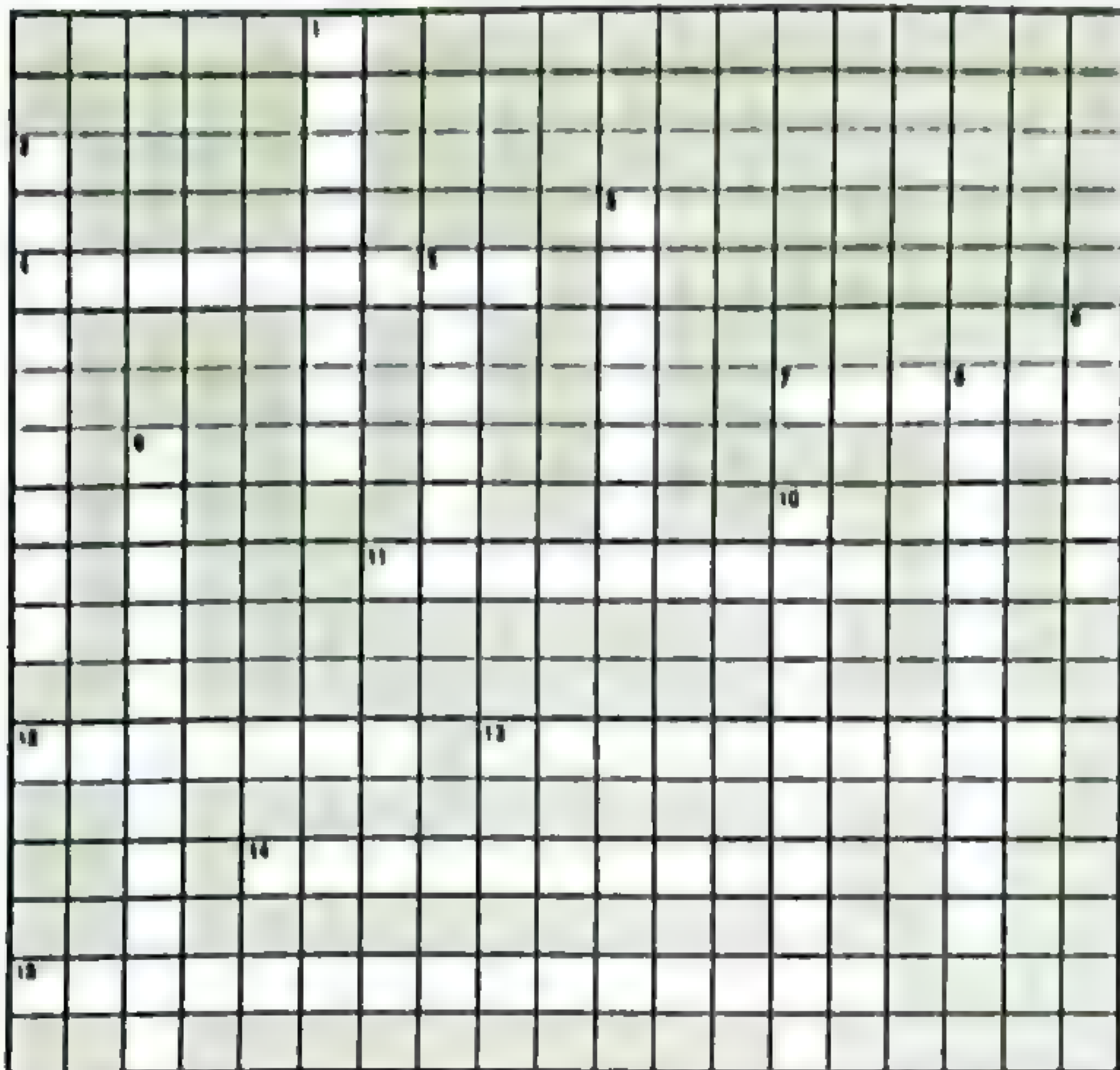
۴. In pregnancy, ..... is precedent to the fetal growth.

- ۱) Parasitic capabilities of the fetus
- ۲) Fetal fat accumulation
- ۳) Successful breastfeeding
- ۴) Preparation for lactation

Answers: ۱. A / ۲. C / ۳. C / ۴. D



اینم به جدول که خستگی در کنی! الان به من فحش میده میگه کی با جدول با موضوع درسی خستگی در میکنه!!!



۱) Breast-feeding

۲) Postpartum vaginal discharge

۳) Period of pregnancy that begins with conception

and ends with childbirth

۴) A pregnant female

۵) The first noticeable fetal movement in utero

۶) Thinning and shortening of the cervix

۷) Rh Incompatibility

۸) The termination of a pregnancy

۹) First milk produced after childbirth

۱۰) Endometrial lining of the uterus

۱۱) Precursor of the ovum

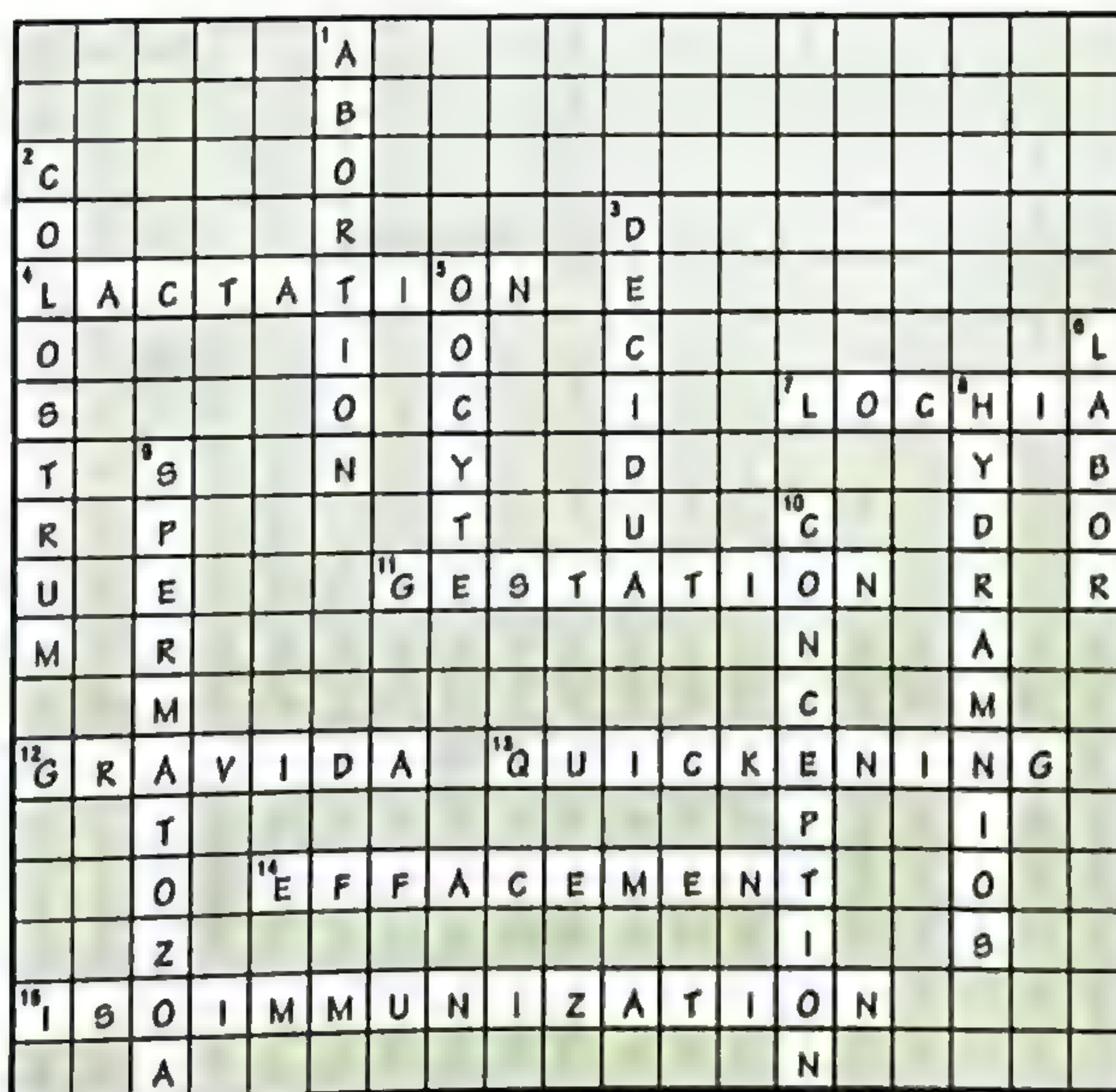
۱۲) Process by which birth of the fetus is achieved

۱۳) An excessive amount of amniotic fluid

۱۴) Cells that move by means of flagellar movements

۱۵) Also called fertilization

اینم پاسخش:





تو این درس راجع به غدد یاد میگیریم. خیلی از لغت‌ها رو دیگه بلدی برای همین میبینی سمت راست صفحه لغتاش کم شده.

♦ بررسی دستگاه اندوکرین از نظر ساختاری و عملکردی:

## ■ INTRODUCTION

The body's main controlling systems are the endocrine system and the nervous system. The endocrine system consists of a widely distributed group of glands that secrete regulatory substances called **hormones**. Because hormones are released into the blood, the **endocrine glands** are known as the *ductless glands*, as compared to *exocrine*<sup>1</sup> glands, such as sweat glands and digestive glands, that secrete through ducts to the outside. Despite the fact that hormones circulating in the blood reach all parts of the body, only certain tissues respond to a specific hormone. The tissue that is influenced by a specific hormone is called the **target tissue**. The cells in a target tissue have specific **receptors** on their membranes or within the cell to which the hormone attaches, enabling<sup>2</sup> it to act.

۱- برون ریز

۲- امکان دادن

## ■ HORMONES

Hormones are produced in extremely<sup>1</sup> small amounts and are highly potent<sup>2</sup>. By means of their actions on various target tissues, they affect growth, metabolism, reproductive activity, and behavior.

۱- بسیار

۲- قوی

Chemically, hormones fall into two categories:

- **Steroid hormones**, which are made from lipids. Steroids are produced by the sex glands (gonads) and the outer region (cortex) of the **adrenal glands**.
- Hormones are made of amino acids, which include proteins and protein-like compounds. All of the endocrine glands aside from the gonads and adrenal cortex produce amino acid hormones.

The production of hormones is controlled mainly by negative feedback—that is, the hormone itself, or some product of hormone activity, acts as a control over further manufacture of the hormone—a self-regulating<sup>3</sup> system. Hormone production may also be controlled by the nervous system or by other hormones.

۳- خودتنظیمی

## ■ THE ENDOCRINE GLANDS

### • Pituitary

The **pituitary gland**, or **hypophysis**, is a small gland beneath<sup>1</sup> the brain. It is divided into an anterior lobe (adenohypophysis) and a posterior lobe (neurohypophysis). The **hypothalamus**, a part of the brain that regulates homeostasis, is connected to and controls both lobes. Because the hypothalamus secretes hormones and is active in controlling the pituitary gland, it is considered to be part of the endocrine system as well as the nervous system.

۱- زیر

The anterior pituitary produces six hormones. One of these is growth hormone (somatotropin), which stimulates bone growth and acts on other tissues as well. The remainder of the pituitary hormones regulate other glands, including the thyroid, adrenals, gonads, and mammary glands.

The posterior pituitary releases two hormones that are actually produced in the hypothalamus. These hormones are stored in the posterior pituitary until they are needed:



Antidiuretic hormone (ADH) acts on the kidneys to conserve water and also promotes constriction of blood vessels. Both of these actions increase blood pressure. Oxytocin stimulates uterine contractions and promotes milk "letdown" in the breasts during lactation.

### • Thyroid And Parathyroid

The thyroid gland consists of two lobes on either side of the larynx and upper trachea. The lobes are connected by a narrow band (isthmus). The thyroid secretes a mixture of hormones, mainly thyroxine (T4) and triiodothyronine (T3). Because thyroid hormones contain iodine, laboratories can measure these hormones and study thyroid gland activity by following iodine levels. Most thyroid hormone in the blood is bound to protein, primarily thyroxine-binding globulin (TBG).

On the posterior surface of the thyroid are four to six tiny parathyroid glands that affect calcium metabolism. Parathyroid hormone (PTH) regulates calcium exchange between the blood and bones. It increases the blood level of calcium when needed.

### • Adrenals

The adrenal glands, located atop the kidneys, are divided into two distinct regions: an outer cortex and an inner medulla. The hormones produced by this gland are involved in the body's response to stress. The cortex produces steroid hormones:

- Cortisol (hydrocortisone) mobilizes<sup>1</sup> fat and carbohydrate reserves to increase these nutrients in the blood. It also reduces inflammation and is used clinically for this purpose.
- Aldosterone causes the kidneys to conserve<sup>2</sup> sodium and water while eliminating potassium.
- Sex hormones, mainly testosterone, are also produced in small amounts, but their importance is not well understood. Some athletes, illegally and dangerously, take testosterone-like steroids to increase muscle size, strength, and endurance<sup>3</sup>.

The medulla of the adrenal gland produces the hormone epinephrine (adrenaline) in response to stress. Epinephrine works with the nervous system to help the body meet physical and emotional challenges.

### • Pancreas

The endocrine portions of the pancreas are the pancreatic islets<sup>1</sup>, small cell clusters within the pancreatic tissue. The term *islet*, meaning "small island," is used because these cells look like little islands in the midst<sup>2</sup> of the many pancreatic cells that secrete digestive juices. The islet cells produce two hormones, insulin and glucagon, that regulate glucose metabolism. Insulin increases cellular use of glucose, thus decreasing blood glucose levels. Glucagon has the opposite effect, increasing blood glucose levels.

## ■ OTHER ENDOCRINE TISSUES

There are three additional types of glands that secrete hormones:

- The pineal gland is a small gland in the brain. It regulates mood, daily rhythms, and sexual development in response to environmental<sup>1</sup> light. Its hormone is melatonin, which some people take to help regulate sleep-wake cycles when they travel between time zones.
- The thymus, secretes the hormone thymosin that aids in the development of the immune system's T cells. The thymus lies in the upper chest above the heart. It is important in early years but shrinks<sup>2</sup> and becomes less important in adults.

۱- به حرکت در آوردن

۲- نگهداری کردن

۳- استقامت

۱- جزایر کوچک

۲- میان

۱- محیطی

۲- کوچک شدن



- The gonads, testes, and ovaries are also included because they secrete hormones in addition to producing the sex cells.

Other organs, including the stomach, kidney, heart, and small intestine, also produce hormones.

Finally, **prostaglandins** are a group of hormones produced by many cells. They have a variety of effects, including stimulation of uterine contractions, promotion of inflammation, and vasomotor activities. They are called prostaglandins because they were first discovered in the prostate gland.

این‌ها به سری ریشه مربوط دستگاه اندوکرین؛

Root	Meaning	Example	Definition of Example
endocrin/o	غدد یا سیستم درون ریز	Endocrinopathy (اندوکرینوپاتی)	هر بیماری مربوط به غدد درون ریز
pituitar/i	هیپوفیز	Pituitarism (پیتویتاریسم)	وضعیت ایجاد شده به علت هر اختلالی در عملکرد هیپوفیز
hypophysi/o	هیپوفیز	Hypophysial (هایپوفیزیال)	مربوط به غده هیپوفیز
thyr/o, thyroid/o	غده تیروئید	Thyrolitic (تایرولیتیک)	تخریب غده تیروئید
parathyr/o, parathyroid/o	غده پاراتیروئید	Hyperparathyroidism (هایپرپاراتایروئیدیسم)	فعالیت بیش از حد غده پاراتیروئید
adren/o adrenal/o	غده ادرنال، اپی نفرین	Adrenergic (ادرنرژیک)	فعال شده توسط یا مربوط به اپی نفرین (ادرنالین)
adrenocortic/o	کورتکس ادرنال	Adrenocorticotropic (ادرنو کورتیکوتروپیک)	فعال در کورتکس ادرنال
insul/o	جزایر پانکراتیک	Insular (اینسولار)	مربوط به جزایر پانکراس

به تمرین کوچک مثل همیشه:

۱. excision of hypophysis

۴. inflammation of the pancreatic islets

۲. tumor (-oma) of pancreatic islets

۵. enlargement of the adrenal gland

۳. any disease of the adrenal gland

Answer: ۱. Hypophysectomy / ۲. Insulinoma / ۳. Adrenopathy / ۴. Insulitis / ۵. Adrenomegaly



این تستابین چی میکن

۱. Once taken up by the thyroid gland, iodide ..... a series of enzymatic reactions that convert it into active thyroid hormone.

- ۱) Undergoes
- ۲) underscores
- ۳) underlies
- ۴) underlines

بزرگی قلبی

۲. The normal functioning of the thyroid gland is essential to ..... The process of growth.

- ۱) circulate
- ۲) require
- ۳) inhibit
- ۴) regulate

بزرگی قلبی

۳. Pheochromocytoma, a tumor of the chromaffin cells of adrenal gland medulla that generates a variety of nonspecific symptoms, is one of the most difficult to diagnose of all .....

- ۱) malignancies
- ۲) constrictions
- ۳) characteristics
- ۴) incidents

بزرگی قلبی

۴. A vascular tumor of chromaffin tissue of the adrenal medulla or sympathetic paraganglia is called .....

- ۱) pheochromocytoma
- ۲) hepatosplenomegaly
- ۳) atrioventricular node
- ۴) phlebotomy

بزرگی قلبی

۵. Diabetes mellitus is a condition that ..... a tremendous health and societal burden worldwide.

- ۱) imposes
- ۲) provides
- ۳) destructs
- ۴) appears

بزرگی قلبی

۶. Diabetes is a ..... of metabolism, the way the body uses digested food for energy.

- ۱) failure
- ۲) disorder
- ۳) syndrome
- ۴) distortion

(یزشکی اسفند ۹۶ - قطب اهواز)

بزرگی قلبی

Answers: ۱. A / ۲. D / ۳. A / ۴. A / ۵. A / ۶. B

## بررسی دستگاه اندوکرین از نظر بالینی:

### ■ INTRODUCTION

Endocrine diseases usually result from the overproduction (hypersecretion<sup>1</sup>) or underproduction (hyposecretion) of hormones. They may also result from secretion at the wrong time or from an inadequate target tissue response. The causes of abnormal secretion may originate in the gland itself or may result from failure of the hypothalamus or the pituitary to release the proper<sup>2</sup> amount of stimulating hormones. Some of the common endocrine disorders are described below.

۱- ترشح بیش از حد

۲- مناسب

### ■ PITUITARY

A pituitary adenoma (glandular<sup>1</sup> tumor) usually increases secretion of growth hormone or adrenocorticotrophic hormone (ACTH). Less commonly, a tumor affects the secretion of prolactin. An excess of growth hormone in children causes gigantism. In adults it causes acromegaly, characterized by enlargement of the hands, feet, jaw, and facial features. Excess ACTH overstimulates the adrenal cortex, resulting in Cushing disease. Increased prolactin causes milk secretion (galactorrhea<sup>2</sup>) in both males and females.

۱- غددی

۲- ترشح شیر



Pituitary hypofunction, as caused by tumor or interruption<sup>3</sup> of blood supply to the gland, may involve a single hormone but usually affects all functions and is referred to as **panhypopituitarism**. This condition's widespread<sup>4</sup> effects include dwarfism (from lack of growth hormone), lack of sexual development and sexual function, fatigue, and weakness. A specific lack of ADH from the posterior pituitary results in **diabetes insipidus**<sup>5</sup> in which the kidneys have a decreased ability to conserve water. Symptoms are polyuria (excessive urination<sup>6</sup>) and polydipsia (excessive thirst<sup>7</sup>). Diabetes insipidus should not be confused with **diabetes mellitus**<sup>8</sup> (DM), a disorder of glucose metabolism described later. The two diseases share the symptoms of polyuria and polydipsia but have entirely different causes. DM is the more common disorder, and when the term *diabetes* is used alone, it generally refers to DM. The word *diabetes* is from the Greek meaning "siphon<sup>9</sup>," referring to the large urinary output in both forms of diabetes.

## ■ THYROID

Because thyroid hormone affects the growth and function of many tissues, a deficiency of this hormone in infancy<sup>1</sup> causes physical and mental retardation<sup>2</sup> as well as other symptoms that together constitute **congenital hypothyroidism**, also called *infantile<sup>3</sup> hypothyroidism*. If not diagnosed at birth and treated, hypothyroidism will lead to mental retardation within six months.

In adults, thyroid deficiency causes weight gain; lethargy<sup>4</sup>; rough<sup>5</sup>, dry skin; hair loss; and facial swelling. There may be reproductive problems and muscular weakness, pain, and stiffness<sup>6</sup>. A common cause of **adult hypothyroidism** is autoimmune destruction of the thyroid. Hypothyroidism in both children and adults is easily treated with thyroid hormone. The most common form of hyperthyroidism is **Graves disease**, also called *diffuse toxic goiter*. This is an autoimmune disorder in which antibodies stimulate an increased production of thyroid hormone. There is weight loss, irritability<sup>7</sup>, hand tremor, and rapid heart rate (tachycardia). A most distinctive<sup>8</sup> sign is bulging<sup>9</sup> eyeballs, termed **exophthalmos**, caused by swelling of the tissues behind the eyes.

A common sign in thyroid disease is an enlarged thyroid, or **goiter**. However, a goiter is not necessarily accompanied by thyroid malfunction. A simple or nontoxic goiter is caused by a dietary iodine deficiency.

## ■ PARATHYROIDS

Overactivity of the parathyroid glands, usually from a tumor, causes a high level of calcium in the blood. Because this calcium is obtained from the bones, there is also skeletal degeneration and bone pain. A common side effect is the development of kidney stones from the high levels of circulating calcium.

Damage to the parathyroids or their surgical removal, as during thyroid surgery, results in a decrease in blood calcium levels. This causes numbness<sup>1</sup> and tingling<sup>2</sup> in the arms and legs and around the mouth (perioral), as well as **tetany** (muscle spasms). Treatment consists of supplying calcium.

## ■ ADRENALS

Hypofunction of the adrenal cortex, or **Addison disease**, is usually caused by autoimmune destruction of the gland. It may also result from a deficiency of pituitary ACTH. The lack of aldosterone results in water loss, low blood pressure, and electrolyte imbalance. There is also weakness and nausea and an increase in brown pigmentation. This last symptom is caused by release of a pituitary hormone that stimulates the skin's pigment cells (melanocytes).

۲- اختلال

۴- منتشر

۵- دیابت بی مزه

۶- ادرار بیش از حد

۷- تشنگی بیش از حد

۸- دیابت شیرین

۹- سیفون

۱- نوزادی

۲- عقب ماندگی ذهنی

۳- مربوط به نوزاد

۴- بی حالی

۵- زمختی

۶- خشکی حرکات

۷- بی قراری

۸- مشخص، متمایز کننده

۹- بیرون زدگی

۱- بی حسی

۲- گزگز کردن



An excess of adrenal cortical hormones results in **Cushing syndrome**. Patients with this syndrome have moon-shaped<sup>1</sup> faces, obesity localized in the torso<sup>2</sup>, weakness, excess hair growth (hirsutism), and fluid retention. The most common cause of Cushing syndrome is the therapeutic administration of steroid hormones. An adrenal tumor is another possible cause. If the disorder is caused by a pituitary tumor that increases ACTH production, it is referred to as **Cushing disease**.

۱- شبیه به ماه

۲- تنه

## ■ THE PANCREAS AND DIABETES

The most common endocrine disorder, and a serious public health problem, is diabetes mellitus (DM), a failure of the body cells to use glucose effectively. The excess glucose accumulates in the blood, causing **hyperglycemia**. Increased urination (polyuria) marks the effort to eliminate the excess glucose in the urine, a condition termed **glycosuria**. The result is dehydration and excessive thirst (polydipsia). There is also weakness, weight loss, and extreme hunger<sup>1</sup> (polyphagia). Unable to use carbohydrates, the body burns more fat. This leads to accumulation of ketone bodies in the blood and a shift toward acidosis, a condition termed **ketoacidosis**. If untreated, diabetes will lead to starvation<sup>2</sup> of the central nervous system and coma. Diabetic patients are prone to cardiovascular, neurologic, and visual problems; infections; and renal failure.

۱- گرسنگی بیش از حد

۲- گرسنگی شدید

از این به هم وصل کنیدهای همیشگی هم یادت نره حل کنی!

- |                           |  |
|---------------------------|--|
| ___ ۱. ketoacidosis       | ۱. disorder that results from excess growth hormone      |
| ___ ۲. adenoma            | ۲. disorder caused by insufficient release of ADH        |
| ___ ۳. Cushing syndrome   | ۳. a result of uncontrolled diabetes                     |
| ___ ۴. acromegaly         | ۴. disorder caused by overactivity of the adrenal cortex |
| ___ ۵. diabetes insipidus | ۵. neoplasm of a gland                                   |

Answer: ۱. C / ۲. E / ۳. D / ۴. A / ۵. B

اینم باز یه سری تست از همین مبحث! میخوام بهت ارزش این متن‌ها رو نشون بدم!

۱. In adults, thyroid deficiency causes weight gain, lethargy, rough and dry skin, hair loss, and facial swelling. The word **lethargy** is closest in meaning to

.....

- ۱) dizziness
- ۲) drowsiness
- ۳) weakness
- ۴) nervousness

۲. The patient's diabetes is an indication of ..... glucose tolerance.

- ۱) generated
- ۲) impaired
- ۳) compensated
- ۴) stigmatized

۳. .... The condition known as "exophthalmos" refers to the

- ۱) protrusion of eyes
- ۲) surgical removal of eyes
- ۳) protrusion of thalamus
- ۴) surgical removal of thalamus

۴. A variety of drugs have been associated with carbohydrate ..... and secondary diabetes mellitus.

- ۱) tolerate
- ۲) tolerance
- ۳) tolerable
- ۴) tolerates

پیشگی قطعی

۸۸ خرداد - خرداد ۸۸

پیشگی قطعی

پیشگی قطعی



۵. For the more common noninsulin-dependent diabetes (NIDDM), studies have found evidence of early resistance to insulin in fat and muscle tissue, and compensatory elevations in circulating insulin, providing an environment that is then conducive to heart and vascular disease.

Which of the following is FALSE?

- ۱) Tissues respond to insulin resistance at different paces.
- ۲) The body responds to the resistance of some tissues to increasing insulin in the body as a whole.
- ۳) Indication of this increase in insulin may improve the diagnosis of pre-diabetes and preventing cardiovascular complications.
- ۴) Contrary to expectation, early resistance to insulin in some tissues helps prevent heart disease.

۶. Acromegaly is caused by an excess of growth hormone, which is most commonly caused by a pituitary tumor. It causes an irreversible overgrowth of bones, particularly those of the face, hands and feet. The skin is also affected and becomes thick, coarse and hairy. Other side effects include high blood pressure and heart disease."

According to the above text, The increase secretion of pituitary .....

- ۱) Can cause bones thickness
- ۲) May affect the heart
- ۳) Leads to merely hair skin
- ۴) Causes pituitary tumor

Answers: ۱. C / ۲. B / ۳. A / ۴. B / ۵. D / ۶. A

اینم به متن زیبا از «پزشکی قطبی» با موضوع دیابت!!

Diabetes mellitus is currently considered as a condition that imposes<sup>1</sup> a tremendous<sup>2</sup> health and societal burden worldwide. In 1929, insulin was discovered and provided optimism for diabetics. The two types of diabetes were also noted. In insulin-dependent diabetes mellitus (IDDM), genetically-based abnormalities in the body's immune system cause self-destruction of insulin-producing beta cells in the pancreas, with subsequent high blood sugar levels. However, in type II diabetes (NIDDM or non-insulin-dependent diabetes mellitus), early resistance to insulin in fat and muscle tissues, and compensatory elevations in circulatory insulin, provide an environment that then leads to cardiovascular diseases. In this case, the elevations in blood sugar, blood pressure and blood fats should be controlled during the secondary prevention. Decreasing the likelihood of complications is, therefore, a priority in controlling diabetes.

۱- تحمل کردن

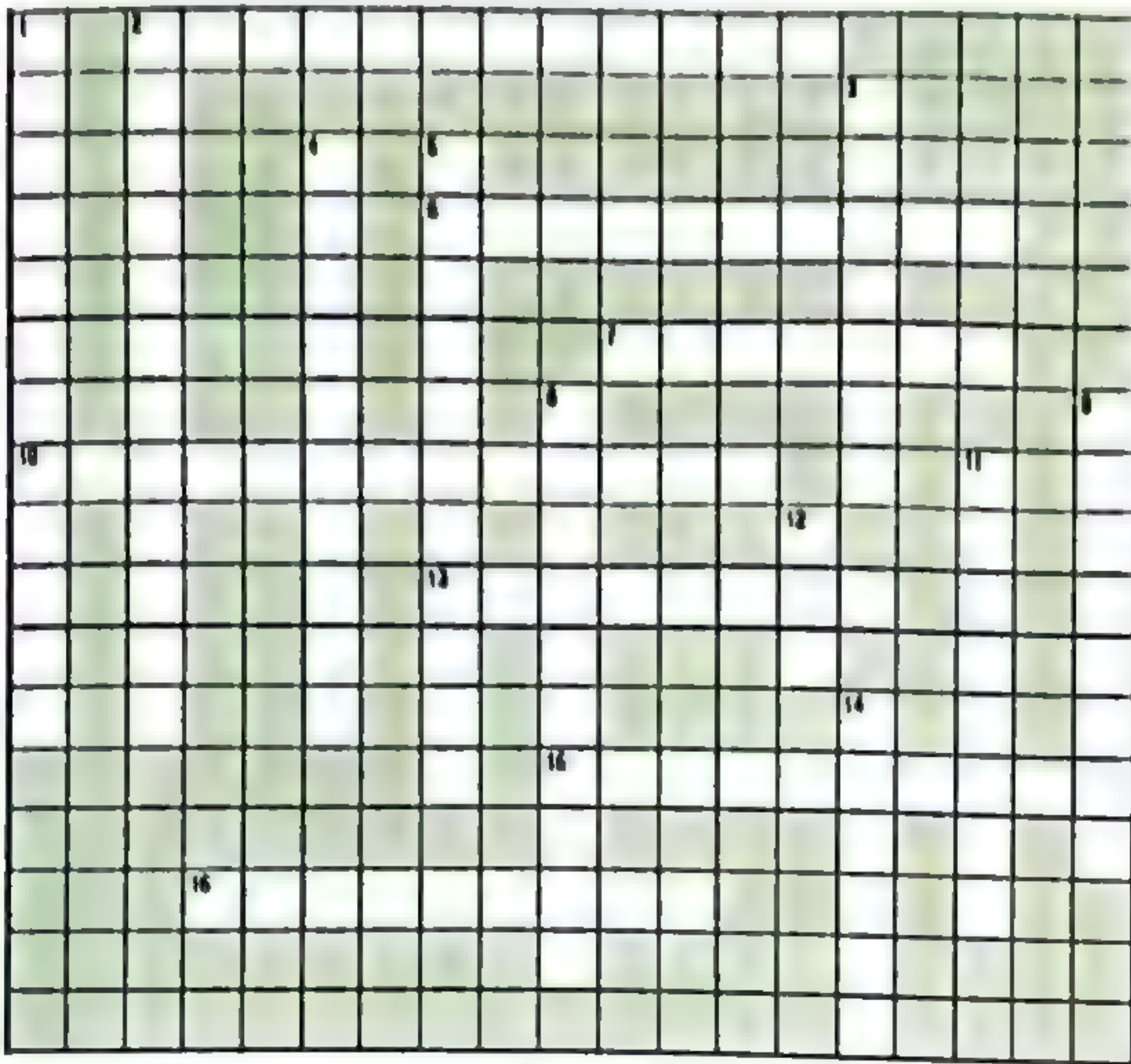
۲- عظیم

- |                                      |  |   |
|--------------------------------------|--|---|
| ۱. The present reality is that ..... | ۲. In insulin-dependent diabetes mellitus, .....             | ۳. In controlling type II diabetes, all of the following may be considered in secondary prevention EXCEPT ..... |
| ۱) diabetes is a fatal disease       | ۱) immune system is not involved in the pathogenesis of IDDM | ۱) hyperlipidemia   |
| ۲) there is no cure for disease      | ۲) abnormalities are created in the genes                    | ۲) hypertension   |
| ۳) diabetes can be easily cured      | ۳) the beta cells in the pancreas may have been destroyed    | ۳) hyperkalemia   |
| ۴) diabetes is likely to be treated  | ۴) sugar consumption should be the main cause in the disease | ۴) hyperglycemia  |

Answers: ۱. D / ۲. C / ۳. C



اینم به جدول باحال از این فصل:



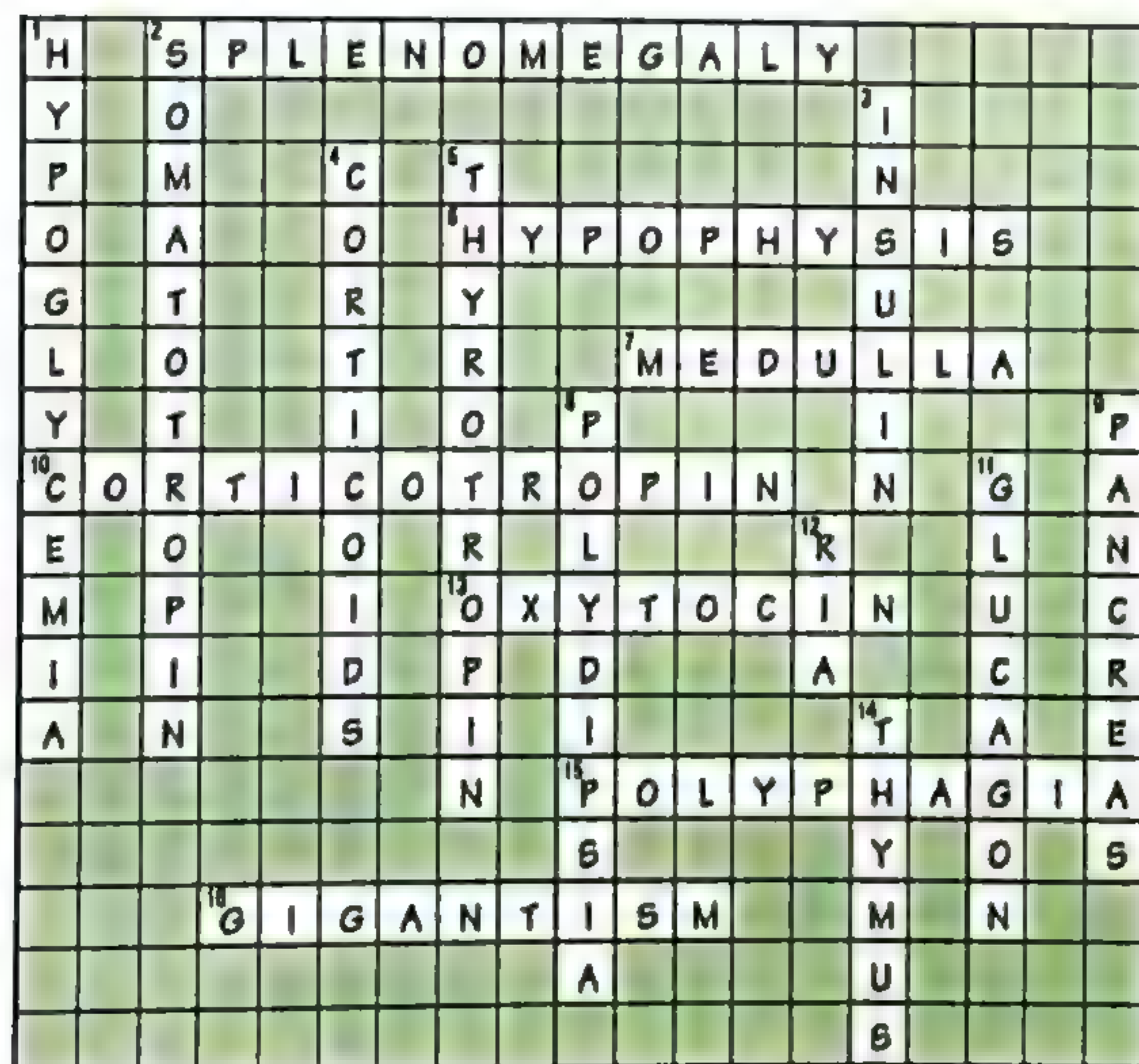
Across

2. Enlarged spleen
3. Also known as the pituitary gland
7. Inner portion of the adrenal gland
10. Stimulates the adrenal cortex
11. Stimulates the ejection of breast milk into the mammary ducts
12. Excessive hunger
13. Proportional overgrowth of body tissues

Down

1. Condition characterized by abnormally low blood glucose level
2. Promotes the growth of bony and soft tissues
3. Hormone that decreases blood glucose levels
4. Hormones produced by the adrenal cortex
5. Influences secretion of thyroid hormone
6. Excessive thirst (a sign of diabetes mellitus)
8. Organ that lies along the posterior surface of the abdominal wall behind the stomach
9. Hormone that increases blood glucose levels
12. Abbreviation for radioimmunoassay
13. Gland located below the sternum

این جواب زیباش:





این درس راه طولانی‌ای دارد. کمر همت رو ببند که شروع کنیم.

♦ بررسی دستگاه عصبی از نظر ساختاری و عملکردی:

## ■ INTRODUCTION

The nervous system and the endocrine system coordinate<sup>1</sup> and control the body. Together they regulate our responses to the environment and maintain homeostasis. Whereas the endocrine system functions by means of circulating hormones, the nervous system functions by means of electric impulses<sup>2</sup> and locally<sup>3</sup> released chemicals called neurotransmitters.

۱- هماهنگ کردن

۲- نگاه

۳- موضعی

## ■ ORGANIZATION OF THE NERVOUS SYSTEM

For study purposes, the nervous system may be divided structurally<sup>1</sup> into two parts:

۱- ساختاری

- The **central nervous system (CNS)**, consisting of the brain and spinal cord.
- The **peripheral nervous system (PNS)**, consisting of all nervous tissue outside the brain and spinal cord

Functionally<sup>2</sup>, the nervous system can be divided into the:

۲- عملکردی

- **Somatic nervous system**, which controls skeletal muscles
- **Autonomic nervous system (ANS)**, or **visceral nervous system**, which controls smooth muscle, cardiac muscle, and glands; regulates responses to stress; and helps to maintain homeostasis

Two types of cells are found in the nervous system. **Neurons**, or nerve cells, make up the conducting<sup>3</sup> tissue of the nervous system. **Neuroglia** are the cells that support<sup>4</sup> and protect<sup>5</sup> nervous tissue.

۳- هدایت کننده

۴- پشتیبانی

۵- محافظت کردن

## ■ THE NEURON

The neuron is the nervous system's basic functional unit. Each neuron has two types of fibers extending from the cell body:

- A **dendrite** carries impulses toward<sup>1</sup> the cell body.
- An **axon** carries impulses away<sup>2</sup> from the cell body.

۱- به سمت

۲- دور از

Some axons are covered with **myelin**, a whitish, fatty material that insulates<sup>3</sup> and protects the axon and speeds electric conduction. Axons so covered are described as **myelinated**, and they make up the **white matter** of the nervous system. Unmyelinated tissue<sup>4</sup> makes up the nervous system's **gray matter**. The myelin sheath consists of individual cells that wrap around the axon. The spaces between these cells are called **nodes**. Myelinated axons conduct nerve impulses more rapidly than unmyelinated axons because the electric impulse can skip from node to node.

۳- عایق کردن

۴- بافت بدون میلین

Each neuron is part of a pathway that carries information through the nervous system. A neuron that transmits impulses toward the CNS is a **sensory**<sup>5</sup>, or **afferent**<sup>6</sup>, neuron; a neuron that transmits impulses away from the CNS is a **motor**<sup>7</sup>, or **efferent**<sup>8</sup>, neuron. A **synapse** is the point of contact between two neurons. At the synapse, energy is passed from one cell to another, usually by means of a **neurotransmitter** and sometimes by direct transfer of electric current<sup>9</sup>.

۵- حسی

۶- اوران

۷- حرکتی

۸- وابران

۹- جریان الکتریکی



## • Nerves

Individual neuron fibers are held<sup>1</sup> together in bundles like wires<sup>2</sup> in a cable. If this bundle<sup>3</sup> is part of the PNS, it is called a **nerve**. A collection of cell bodies along the pathway of a nerve is a **ganglion**. A few nerves (sensory nerves) contain only sensory neurons, and a few (motor nerves) contain only motor neurons, but most contain both types of fibers and are described as *mixed nerves*.

- ۱- نگه داشته شدن
- ۲- سیم
- ۳- دسته

## ■ THE BRAIN

The brain is nervous tissue contained within the cranium. It consists of the **cerebrum**, **diencephalon**, **brainstem**, and **cerebellum**. The cerebrum is the largest part of the brain; it is composed largely of white matter with a thin<sup>1</sup> outer layer<sup>2</sup> of gray matter, the **cerebral cortex**<sup>3</sup>. It is within the cortex that the higher brain functions of memory<sup>4</sup>, reasoning<sup>5</sup>, and abstract thought<sup>6</sup> occur. The cerebrum's distinct surface is formed by grooves, or **sulci** (singular: **sulcus**<sup>7</sup>), and raised areas, or **gyri** (singular: **gyrus**<sup>8</sup>), that provide additional surface area. The cerebrum is divided into two hemispheres by a deep groove, the **longitudinal fissure**<sup>9</sup>. Each hemisphere is further divided into lobes with specialized<sup>10</sup> functions. The lobes are named for the skull bones under which they lie.

- ۱- نازک / ۲- لایه خارجی
- ۳- قشر / ۴- حافظه
- ۵- استدلال / ۶- تفکر انتزاعی
- ۷- شیار
- ۸- شکنج
- ۹- شکاف
- ۱۰- تخصصی

The remaining parts of the brain are as follows:

- The diencephalon contains the **thalamus**, the **hypothalamus**, and the pituitary gland. The thalamus receives sensory information and directs it to the proper portion of the cortex. The hypothalamus controls the pituitary and forms a link between the endocrine and nervous systems.
- The brainstem consists of the:
  - **Midbrain**<sup>1</sup>, which contains reflex centers for improved vision<sup>2</sup> and hearing.
  - **Pons**<sup>3</sup>, which forms a bulge<sup>4</sup> on the anterior surface of the brainstem. It contains fibers that connect the brain's different regions.
  - **Medulla oblongata**<sup>5</sup>, which connects the brain with the spinal cord. All impulses passing to and from the brain travel through this region. The medulla also has vital centers for control of heart rate, respiration, and blood pressure.

- ۱- مغز میانی
- ۲- بینایی
- ۳- پل مغزی
- ۴- برآمدگی
- ۵- بصل النخاع
- ۶- مخچه
- ۷- موقعیت بدنی

The **cerebellum**<sup>6</sup> is under the cerebrum and dorsal to the pons and medulla. Like the cerebrum, it is divided into two hemispheres. The cerebellum helps to control voluntary muscle movements and to maintain posture<sup>7</sup>, coordination, and balance.

## • Protecting The Brain

Within the brain are four **ventricles**<sup>1</sup> (cavities) in which **cerebrospinal fluid (CSF)** is formed. This fluid circulates around the brain and spinal cord, acting as a protective cushion<sup>2</sup> for these tissues.

Covering the brain and the spinal cord are three protective layers, together called the **meninges**. All are named with the Latin word *mater*, meaning "mother," to indicate<sup>3</sup> their protective function. They are the:

**Dura mater**<sup>4</sup>, the outermost and toughest<sup>5</sup> of the three. *Dura* means "hard."

**Arachnoid mater**<sup>6</sup>, the thin, web-like middle layer. It is named for the Latin word for spider, because it resembles a spider web.

**Pia mater**<sup>7</sup>, the thin, vascular inner layer, attached directly to the tissue of the brain and spinal cord. *Pia* means "tender."

Twelve pairs of **cranial nerves** connect with the brain. These nerves are identified by Roman numerals and also by name.

- ۱- بطن
- ۲- بالش
- ۳- نشان دادن
- ۴- سخت شامه
- ۵- سخت ترین
- ۶- عنكبوتیه
- ۷- نرم شامه



## ■ THE SPINAL CORD

The spinal cord begins at the medulla oblongata and tapers<sup>1</sup> to an end between the first and second lumbar vertebrae. It has enlargements in the cervical and lumbar regions, where nerves for the arms and legs join the cord. The spinal cord has a central area of gray matter surrounded by white matter. The gray matter projects toward the posterior and the anterior as the dorsal and ventral horns. The white matter contains the ascending and descending tracts<sup>2</sup> (fiber bundles) that carry impulses to and from the brain. A central canal contains CSF.

۱- باریک شدن

۲- راهها

### • The Spinal Nerves

Thirty-one pairs of spinal nerves connect with the spinal cord. These nerves are grouped in the segments of the cord as follows: Cervical (8), Thoracic (12), Lumbar (5), Sacral (5), Coccygeal (1)

Each nerve joins the cord by two roots. The dorsal, or posterior, root carries sensory impulses into the cord; the ventral, or anterior, root carries motor impulses away from the cord and out toward a muscle or gland. An enlargement on the dorsal root, the dorsal root ganglion, has the cell bodies of sensory neurons carrying impulses toward the CNS.

### • Reflexes

A simple response that requires few neurons is a reflex. In a spinal reflex, impulses travel through the spinal cord only and do not reach the brain. An example of this type of response is the knee-jerk reflex used in physical examinations. However, most neurologic responses involve complex interactions among multiple neurons in the CNS.

## ■ THE AUTONOMIC NERVOUS SYSTEM

The ANS is the division of the nervous system that controls the involuntary actions of muscles and glands. The ANS itself has two divisions:

- The sympathetic nervous system motivates<sup>1</sup> our response to stress, the so-called fight- or-flight response. It increases heart rate and respiration rate, stimulates the adrenal gland, and delivers more blood to skeletal muscles.
- The parasympathetic nervous system returns the body to a steady state and stimulates maintenance activities, such as digestion of food. Most organs are controlled by both systems, and in general, the two systems have opposite effects on a given organ.

۱- تحریک کردن

الف) ریشه‌های مربوط به دستگاه عصبی و نخاع

Root	Meaning	Example	Definition of Example
neur/o, neur/i	سیستم عصبی، بافت عصبی، عصب	neurotrophin (نوروتروفین)	فاکتوری که باعث رشد اعصاب می شود (troph/o به معنی تغذیه است)
gli/o	نوروگلیا	glial (گلیال)	مربوط به نوروگلیا





Root	Meaning	Example	Definition of Example
gangli/o, ganglion/o	گانگلیون	ganglioma (گانگلیوما)	تومور گانگلیون
mening/o, meninge/o	مننژ	meningocele (منینگوسل)	بیرون زدگی مننژ
myel/o	نخاع (همچنین مغز استخوان)	hematomyella (هماتومایلیا)	خون ریزی درون نخاع
radicul/o	ریشه عصب نخاعی	radiculopathy (رادیکولوپاتی)	هر بیماری مربوط به ریشه های اعصاب نخاعی

(ب) ریشه های مربوط به مغز:

Root	Meaning	Example	Definition of Example
encephal/o	مغز	anencephaly (آننسفال)	نبود مغز
cerebr/o	مغز	infracerebral (اینفرا سربرال)	زیر مغز
cortic/o	کورتکس مغز، بخش بیرونی	corticospinal (کورتیکواسپینال)	مربوط به کورتکس مغز و نخاع
cerebell/o	مخچه	supracerebellar (سوپراسربلار)	بالای مخچه
thalam/o	تالاموس	thalamotomy (تالاموتومی)	برداشتن تالاموس
ventricul/o	حفره، بطن	intraventricular (اینتراونتریکولار)	درون بطن
medull/o	نخاع	medullary (مدولاری)	مربوط به نخاع
psych/o	ذهن، روان	psychogenic (سایکوژنیک)	منشا گرفته از روان
narc/o	عدم هوشیاری	narcosis (نارکوسیس)	عدم هوشیاری ناشی از دارو
somn/o, somn/i	خواب	Somnolence (سامنولنس)	خواب الودگی



ج) پسوندهای مربوط به دستگاه عصبی:

Root	Meaning	Example	معنی (پسوند)
-phasia	سخن	heterophasia (هتروفازیا)	گفتن کلمات متفاوت از آنچه که مورد نظر است
-lalia	سخن	coprolalia (کوپرولالیا)	استفاده از کلمات به طور مبهم (copro = مدفوع)
-lexia	خواندن	bradylexia (بردی لکسیا)	کند خواندن
-plegia	فلج	tetraplegia (تتراپلژیا)	فلج چهار اندام
-paresis	فلج موضعی، ضعف	hemiparesis (همی پرسیس)	فلج موضعی یک سمت بدن
-lepsy	صرع	narcolepsy (نارکولپسی)	وضعیتی که در آن فرد اپیزود های ناگهانی خواب را تجربه میکند
-phobia	ترس مداوم و غیرمنطقی	agoraphobia (آگورافوبیا)	ترس از بودن در مکان عمومی
-mania	وضعیت هیجانی، وسواس (obsession)	megalomania (مگالومانیا)	اهمیت دادن به خود به طور اغراق آمیز، توهم خودبزرگ بینی

یه تمرین هم حل کن بریم سراغ تست:

1. inflammation of spinal cord

2. pain in a nerve

3. Somnambulism means walking during \_\_\_\_

4. fear of light

5. slowness in speech (-lalia)

6. without the ability to speak

Answer: 1. Myelitis / 2. Neuralgia / 3. Sleep / 4. Photophobia / 5. Bradylalia / 6. Aphasia

بینم این تست رو چه میکنی:

1. The patient with intractable pain was referred to the hospital where the surgeon decided that he undergo ..... to destroy and breakdown the nerve.

A) neuralgia

B) neurogenesis

C) neurolysis

D) neurotropic

چان دوره کشوری - آذر ۸۸

2. A condition in which the patient is characterized by a defect or loss of power of expression by speech is termed .....

A) aphagia

B) aphasia

C) dyspepsia

D) ataxia

پزشکی قلبی

3. If a patient speaks of "tingling" or "pins and needles", s/he is probably complaining of.....

A) Tinnitus

B) Anorexia

C) Ataxia

D) Paraesthesia

پزشکی قلبی

4. Hemorrhage into the spinal cord is termed .....

A) hematoma

B) Myelolypsis

C) meningioma

D) Hematomyelia

پزشکی قلبی



۱. Meningitis refers to any infectious disease ..... the meninges which are the membranes covering the brain and spinal cord.

- ۱) Delaying                      ۲) Predicting  
۳) Attacking                    ۴) Protecting

۲. One of the complications of Covid-19 is ....., i.e. the inability to track one or all smells.

- ۱) cacosmia                      ۲) anosmia  
۳) cacomelia                    ۴) Anaphia

۳. Any disease of a spinal nerve root is termed .....

- ۱) meningocele                      B) hematomyelia  
۲) anencephaly                      D) Radiculopathy

Answers: ۱. B / ۲. C / ۳. D / ۴. D / ۵. C / ۶. D / ۷. B

❖ بررسی دستگاه عصبی و اختلالات رفتار از نظر بالینی:

## ■ VASCULAR DISORDERS

The term **cerebrovascular accident (CVA)**, or **stroke**, applies to any occurrence<sup>1</sup> that deprives<sup>2</sup> brain tissue of oxygen. These events include blockage in a vessel that supplies the brain, a ruptured blood vessel, or some other damage that leads to hemorrhage within the brain. Stroke is the fourth leading cause of death in developed countries and is a leading cause of **paralysis**<sup>3</sup> and other neurologic disabilities<sup>4</sup>.

### • Thrombosis

**Thrombosis** is the formation of a blood clot in a vessel. Often, in cases of CVA, thrombosis occurs in the carotid artery, the large vessel in the neck that supplies the brain. Sudden blockage by an obstruction traveling from another part of the body is described as an **embolism**. In cases of stroke, the embolus usually originates in the heart. Thrombolytic drugs for dissolving<sup>1</sup> ("busting") such clots are available.

### • Aneurysm

An **aneurysm** is a localized dilation of a vessel that may rupture and cause hemorrhage. An aneurysm may be congenital or may arise from other causes, especially atherosclerosis, which weakens the vessel wall. Hypertension then contributes to its rupture.

The effects of cerebral hemorrhage vary from massive functional loss to mild sensory or motor impairment depending on the degree of damage. **Aphasia**, loss or impairment of speech communication<sup>1</sup>, is a common aftereffect. **Hemiplegia** (paralysis of one side of the body) on the side opposite the damage is also seen. It has been found in cases of hemorrhage, as in other forms of brain injury, that immediate retraining<sup>2</sup> therapy may help to restore lost function.

## ■ TRAUMA

A **cerebral contusion**<sup>1</sup> is a bruise<sup>2</sup> to the brain's surface, usually caused by a blow to the head. Blood escapes<sup>3</sup> from local vessels, but the injury is not deep.

A more serious injury may cause bleeding into or around the meninges, resulting in a **hematoma**, a localized collection of clotted blood. Damage to an artery from a skull fracture, usually on the side of the head, may be the cause of an **epidural hematoma**, which appears between the dura mater and the skull bone. The rapidly accumulating blood puts pressure on local vessels and interrupts blood flow to the brain. There may be headache, loss of consciousness, or **hemiparesis** (partial paralysis) on the side opposite the blow. Diagnosis is made by CT scan or magnetic resonance imaging (MRI). If pressure is not relieved<sup>4</sup> within one or two days, death results.

۱- وقوع

۲- محروم کردن

۳- فلجی

۴- از کار افتادگی

۱- حل کردن

۲- خرد کردن

۱- ارتباط کلامی

۲- بازآموزی

۱- کوفتگی

۲- کبودی

۳- خروج

۴- رفع شدن



A subdural hematoma often results from a blow<sup>1</sup> to the front or back of the head, as when the moving head hits a stationary<sup>2</sup> object. The force of the blow separates the dura from the underlying arachnoid. Blood from a damaged vessel, usually a vein, slowly enters this space. The gradual blood accumulation puts pressure on the brain, causing headache, weakness, and dementia<sup>3</sup>, loss of intellectual function<sup>4</sup>. If there is continued bleeding, death results.

A cerebral concussion<sup>5</sup> results from a blow to the head or from a fall and is usually followed by temporary loss of consciousness and a short period of amnesia<sup>6</sup>. After-effects of a concussion may include headache, dizziness, vomiting, fatigue, and even paralysis, among other symptoms. Damage that occurs on the side of the brain opposite a blow as the brain is thrown against the skull is described as a **contrecoup** (کونترکوپ) injury<sup>7</sup> (from French, meaning "counterblow"). Other injuries may damage the brain directly. Injury to the base of the brain may involve vital centers in the medulla and interfere with respiration and cardiac functions.

### ■ NEOPLASMS

Almost all tumors that originate<sup>1</sup> in the nervous system are tumors of nonconducting support cells, the neuroglia. These growths are termed **gliomas** and may be named for the specific cell type involved, such as **astrocytoma**, a tumor of astrocytes, or **neurilemmoma** (schwannoma), a tumor of the cells that make the myelin sheath<sup>2</sup>. Because they tend<sup>3</sup> not to metastasize, these tumors may be described as benign. However, they do harm by compressing brain tissue. The symptoms they cause depend on their size and location. There may be **seizures**<sup>4</sup>, headache, vomiting, muscle weakness, or interference with a special sense, such as vision or hearing. If present, edema and **hydrocephalus**, accumulation of excess CSF in the ventricles, add to the tumor's effects.

### ■ DEGENERATIVE DISEASES

**Multiple sclerosis (MS)** commonly attacks people in their 20s or 30s and progresses at intervals and at varying rates. It involves patchy<sup>1</sup> loss of myelin with hardening (sclerosis) of tissue in the CNS. The symptoms include vision problems, tingling or numbness in the arms and legs, urinary incontinence, **tremor** (shaking<sup>2</sup>), and stiff gait<sup>3</sup>. MS is thought to be an autoimmune disorder, but the exact cause is not known.

**Parkinsonism** occurs when, for unknown reasons, certain neurons in the midbrain fail to secrete the neurotransmitter dopamine. This leads to tremors, muscle rigidity<sup>4</sup>, flexion at the joints, akinesia (loss of movement), and emotional problems.

**Alzheimer disease (AD)** results from unexplained degeneration of neurons and atrophy of the cerebral cortex. These changes cause progressive<sup>5</sup> loss of recent memory, confusion, and mood changes. Dangers associated with AD are injury, infection, malnutrition, and aspiration of food or fluids into the lungs. Originally called *presenile dementia* and used only to describe cases in patients about 50 years of age, the term is now applied to these same changes when they occur in elderly patients.

### ■ EPILEPSY

A prime characteristic of epilepsy is recurrent seizures brought on by abnormal electric activity of the brain. These attacks may vary from brief<sup>1</sup> and mild episodes known as absence (petit mal) seizures to major tonic-clonic (grand mal) seizures with loss of consciousness, **convulsion**<sup>2</sup> (intervals of violent involuntary muscle contractions), and sensory disturbances. In other cases (psychomotor seizures), there is a one- to two-minute period of disorientation<sup>3</sup>. Epilepsy may be the result of a tumor, injury, or neurologic disease, but in most cases, the cause is unknown.

۱- ضربه

۲- ثابت

۳- زوال عقل

۴- عملکرد ذهنی

۵- ضربیدگی

۶- فراموشی

۷- آسیب متقابل

۱- ناشی از

۲- غلاف

۳- تمایل داشتن

۴- تشنج

۱- تکه تکه

۲- لرزیدن

۳- راه رفتن خشک

۴- سفتی

۵- پیشرونده

۱- خفیف

۲- تشنج علامت دار

۳- عدم آگاهی به موقعیت



EEG reveals abnormalities in brain activity and can be used in the diagnosis and treatment of epilepsy. The disorder is treated with antiepileptic and anticonvulsive drugs to control seizures, and sometimes surgery is of help. If seizures cannot be controlled, the individual with epilepsy may have to avoid certain activities that can lead to harm.

## ■ SLEEP DISTURBANCES

The general term *dyssomnia* includes a variety of possible disorders that result in excessive sleepiness or difficulty in beginning or maintaining sleep. Simple causes for such disorders include schedule changes or travel to different time zones (jet lag). *Insomnia* refers to insufficient or nonrestorative<sup>1</sup> sleep despite ample<sup>2</sup> opportunity<sup>3</sup> to sleep. There may be physical causes for insomnia, but often it is related to emotional upset caused by stressful events. *Narcolepsy* is characterized by brief, uncontrollable attacks of sleep during the day. The disorder is treated with stimulants, regulation of sleep habits, and short daytime naps.

*Sleep apnea* refers to failure to breathe for brief periods during sleep. It usually results from upper airway obstruction, often associated with obesity, alcohol consumption, or weakened throat muscles, and is usually accompanied by loud snoring<sup>4</sup> with brief periods of silence. Dental appliances<sup>5</sup> that move the tongue and jaw forward may help to prevent sleep apnea. Other options are surgery to correct an obstruction or positive air pressure delivered through a mask.

Sleep studies identify two components of normal sleep, each showing a specific EEG pattern. Non-rapid eye movement (NREM) sleep has four stages, which take a person progressively into the deepest level of sleep. If sleepwalking (somnambulism) occurs, it occurs during this stage. NREM sleep is interrupted about every 1.5 hours by episodes of rapid eye movement (REM) sleep, during which the eyes move rapidly, although they are closed. Dreaming occurs during REM sleep and muscles lose tone, while heart rate, blood pressure, and brain activity increase.

## ■ BEHAVIORAL DISORDERS

### • Anxiety Disorder

*Anxiety*<sup>1</sup> is a feeling of fear, worry, uneasiness, or dread<sup>2</sup>. It may be associated with physical problems or drugs and is often prompted<sup>3</sup> by feelings of helplessness<sup>4</sup> or loss of self-esteem<sup>5</sup>. Generalized anxiety disorder (GAD) is characterized by chronic excessive and uncontrollable worry about various life circumstances, often with no basis. It may be accompanied by muscle tensing, restlessness, dyspnea, palpitations, insomnia, irritability, or fatigue.

*Panic disorder* is a form of anxiety disorder marked by episodes of intense<sup>6</sup> fear. A person with panic disorder may isolate<sup>7</sup> himself or herself or avoid social situations<sup>8</sup> for fear of having a panic attack or in response to attacks.

A *phobia* is an extreme, persistent<sup>9</sup> fear of a specific object or situation. It may center on social situations, particular objects, such as animals or blood, or activities, such as flying or driving through tunnels.

۱- غیر احیا کننده، غیر قابل ترمیم

۲- کافی

۳- فرصت

۴- خروپف

۵- لوازم

۱- اضطراب

۲- وحشت

۳- برانگیختن

۴- درماندگی

۵- از دست دادن اعتماد به نفس

۶- شدید

۷- منزوی کردن

۸- موقعیت‌های اجتماعی

۹- مداوم



## • Mood Disorder

Depression is a mental state characterized by profound<sup>1</sup> feelings of sadness, emptiness<sup>2</sup>, hopelessness<sup>3</sup>, inability to concentrate<sup>4</sup>, and lack of interest or pleasure<sup>5</sup> in activities. Depression is often accompanied by insomnia, loss of appetite, and suicidal tendencies, and it frequently coexists<sup>6</sup> with other physical or emotional conditions. In bipolar disorder (formerly called manic-depressive illness), normal moods alternate<sup>7</sup> with episodes of depression and mania<sup>8</sup>, a state of elation<sup>9</sup> that may include agitation<sup>10</sup>, hyperexcitability, or hyperactivity.

## • Psychosis

Psychosis is a mental state in which there is gross misperception<sup>1</sup> of reality. This loss of touch with reality<sup>2</sup> may be evidenced by delusions<sup>3</sup> (false beliefs), including paranoia<sup>4</sup>, delusions of persecution<sup>5</sup> or threat, or hallucinations<sup>6</sup>, imagined sensory experiences. Although the patient's condition makes it impossible for him or her to cope<sup>7</sup> with the ordinary demands<sup>8</sup> of life, there is lack of awareness that this behavior is inappropriate. Schizophrenia is a form of chronic psychosis that may include bizarre<sup>9</sup> behavior, paranoia, anxiety, delusions, withdrawal, and suicidal tendencies. The diagnosis of schizophrenia encompasses<sup>10</sup> a broad<sup>11</sup> category of disorders with many subtypes. The causes of schizophrenia are unknown, but there is evidence of hereditary factors and imbalance in brain chemistry.

## • Attention Deficit Hyperactivity DISORDER

Attention deficit<sup>1</sup> hyperactivity disorder (ADHD) is difficult to diagnose because many of its symptoms overlap<sup>2</sup> or coexist with other behavioral disorders. Although inattention and hyperactivity usually appear together in these cases, one component may predominate<sup>3</sup>. ADHD commonly begins in childhood and is characterized by attention problems, easy boredom<sup>4</sup>, impatience<sup>5</sup>, and impulsive<sup>6</sup> behavior. Associated hyperactivity may be manifested by fidgeting<sup>7</sup>, squirming<sup>8</sup>, rapid motion, or excessive talking. In adults, the signs of ADHD may be confused with other disorders, such as mood disturbances, substance abuse, and endocrine problems.

۱- عمیق / ۲- پوچی

۳- ناامیدی / ۴- تمرکز

۵- لذت / ۶- همراهی

۷- تغییر خلق / ۸- شیدایی

۹- سرخوشی / ۱۰- بی‌قرار

۱- درک اشتباه / ۲- واقعیت

۳- هذیان / ۴- بدگمانی

۵- آزار و اذیت / ۶- توهم

۷- کنار آمدن با / ۸- نیازها

۹- عجیب

۱۰- دربرگرفتن

۱۱- گسترده

۱- کمبود

۲- همپوشانی

۳- برجسته شدن

۴- بی‌حوصلگی

۵- بی‌صبری

۶- پیش رانشی (بدون فکر)

۷- بی‌قراری

۸- به خود پیچیدن، دستپاچگی

از این به هم وصل کنیده‌های همیشگی هم یادت نره حل کنی!

\_\_\_ ۱. contrecoup injury

\_\_\_ ۲. aphasia

\_\_\_ ۳. hydrocephalus

\_\_\_ ۴. paranoia

\_\_\_ ۵. odyonophobia

۱. mental disorder associated with delusions of persecution

۲. excessive fear of pain

۳. loss of speech communication

۴. accumulation of CSF in the brain

۵. damage to the brain on the side opposite the point of a blow

Answer: ۱. E / ۲. C / ۳. D / ۴. A / ۵. B

اینم باز یه سری تست از همین مبحث! میخوام بهت ارزش این متن‌ها رو نشون بدم!

۱. "Accumulation of excess CSF in the ventricles of the brain" is termed.....

۱) Hydrocephalus

۲) Neurilemmoma

۳) Glioma

۴) Hemiparesis

۲. Inspection of a patient's ..... is an integral part of the neurological examination and should never be omitted if the patient is fit to walk.

۱) trait

۲) gate

۳) strait

۴) gait



۱. A medical device that relieves pressure on the brain caused by fluid accumulation is ..... shunt.

- ۱) Hydrocephalus
- ۲) Intracranial
- ۳) Somatic
- ۴) Ventriculoperitoneal

پزشکی قلبی

۲. Which term means "clinical specialist in mental disorders":

- ۱) Psychiatry
- ۲) Psyschiatrist
- ۳) Psychology
- ۴) Psychologist

پزشکی قلبی

۳. Brief, uncontrollable attacks of sleep during the day is termed .....

- ۱) Narcolepsy
- ۲) Insomnia
- ۳) Sleep apnea
- ۴) somnambulism

پزشکی قلبی

۴. The root "somn/o" as in "somnolence" refers to a medical condition for .....

- ۱) dizziness
- ۲) walking
- ۳) sleepiness
- ۴) Unconsciousness

پزشکی قلبی

۵. The patient complains of weakness of her lower extremities. She has .....

- ۱) Tetraplegia
- ۲) Hemiparesis
- ۳) Paraparesis
- ۴) Hemiplegia

پزشکی قلبی

۶. A mental state characterized by jealousy, delusions of persecution or perception of threat or harm is referred to as .....

- ۱) psychosis
- ۲) mania
- ۳) paranoia
- ۴) delirium

پزشکی قلبی

۷. A condition originating from the mind is termed as .....

- ۱) psychological
- ۲) psychosomatic
- ۳) psychogenic
- ۴) Psychosis

پزشکی قلبی

۸. Insomnia is a situation in which the person can get enough .....

- ۱) Food
- ۲) Sleep
- ۳) Exercise
- ۴) Vitamins

پزشکی قلبی

۹. A patient with ..... suffers from loss of speech communication

- ۱) alexia
- ۲) ataxia
- ۳) aphasia
- ۴) amnesia

۹۸ سوال دورہ کنکور - خرداد ۹۸

۱۰. Sudden violent involuntary series of contractions of a group of muscles that may be paroxysmal is called .....

- ۱) Shivering
- ۲) convulsion
- ۳) epilepsy
- ۴) seizure

پزشکی قلبی



Narcolepsy is a disease characterized by malfunctioning sleep mechanics. It can consist of a sudden and uncontrollable bout<sup>1</sup> of sleep during daylight hours and disturbed sleep during nighttime hours. It commonly makes its appearance during adolescence or young adulthood.

۱- دوره

Narcolepsy can take a number of forms during daylight hours. One more common symptom of the disease during daytime hours is a sudden attack of REM (rapid-eye-movement) sleep during normal waking hours. During a sleep attack, narcoleptics may continue automatically performing the activity they were involved in prior to falling sleep. Others may experience cataplexy i.e. a sudden loss of muscle tone that may cause the head to droop<sup>2</sup> or the knees to wobble<sup>3</sup> in minor attacks or a total collapse in more serious attacks.

۲- افتادن

۳- تکان خوردن، تلو خوردن

During sleep hours, narcolepsy can also manifest itself in a variety of ways. During the transitional phase that precedes the onset of sleep, it is common for hallucinations to occur. These hallucinations, known as hypnologic phenomena, consist of realistic perceptions of sights<sup>4</sup> and sounds during the semi-conscious<sup>5</sup> state between wakefulness and sleep. Narcoleptics may also suffer from night wakening during sleep, resulting in extremely fragmented<sup>6</sup> and restless sleep. Then upon waking, a narcoleptic may experience sleep paralysis perhaps for several minutes immediately.

۴- بینش

۵- نیمه آگاه

۶- قطعه قطعه، یکپارچه نبودن

۱. An appropriate title for this passage could be .....

- ۱) a good night's sleep
- ۲) a cure for narcolepsy
- ۳) an unusual sleep disturbance
- ۴) hallucinations during sleep

۲. Narcoleptics are more likely to experience ..... during daily activities.

- ۱) cataplexy
- ۲) sleep attacks
- ۳) sleep paralysis
- ۴) automatic behavior

۳. Hypnologic phenomena most likely occur .....

- ۱) after going to bed
- ۲) in the middle of the night
- ۳) soon after waking
- ۴) a few hours after

۴. Narcolepsy is least likely to be seen in a person at the age of .....

- ۱) 11-15
- ۲) 16-20
- ۳) 21-25
- ۴) 26-32

۵. As stated in the passage, ..... may involve a complete collapse.

- ۱) hallucinations
- ۲) cataplexy
- ۳) automatic behavior
- ۴) REM sleep

Answers: ۱. C / ۲. D / ۳. B / ۴. B / ۵. A

### Reading Comprehension: (پزشکی اسفند ۱۴۰۰)

Schizophrenia is often confused with multiple personality disorder yet it is quite distinct from it. Schizophrenia is of one of the more common disorders, considerably more common than multiple personality disorder. The term "schizophrenia" is composed of roots which mean "a splitting of the mind," but it does not refer to a division into separate and distinct personalities, as occurs in the multiple personality disorders. Instead, schizophrenic behavior is generally characterized by illogical thought patterns and withdrawal from reality. Schizophrenics often live in a fantasy world where they hear voices that other people cannot hear, often voices of famous people. Schizophrenics tend to withdraw from families and friends and communicate mainly with the "voices" that they hear in their minds.

It is common for the symptoms of schizophrenia to develop during the late teen years or early twenties, but the causes of schizophrenia are not well understood. It is believed that heredity may play a part in the onset of schizophrenia. In addition, abnormal brain chemistry also seems to have a role; certain brain chemicals, called neurotransmitters, have been found to be at abnormal levels in some schizophrenics.



۱. Which of the following is true about the schizophrenia and multiple personality disorder?

- ۱) They are highly similar
- ۲) One is psychological disorder, while the other is not
- ۳) Many people mistake one for the other
- ۴) Multiple personality disorder occurs more than schizophrenia

۲. Which is NOT true about schizophrenia, according to the passage?

- ۱) It is characterized by separate and distinct personalities.
- ۲) It often causes withdrawal from reality.
- ۳) Its symptoms include illogical patterns.
- ۴) Its victims tend to hear voices in their minds.

۳. According to the passage, schizophrenics ————— their families.

- ۱) are quite friendly with
- ۲) tend to keep a distance from
- ۳) have a unique ability to understand
- ۴) communicate openly with

۴. The author maintains that .....

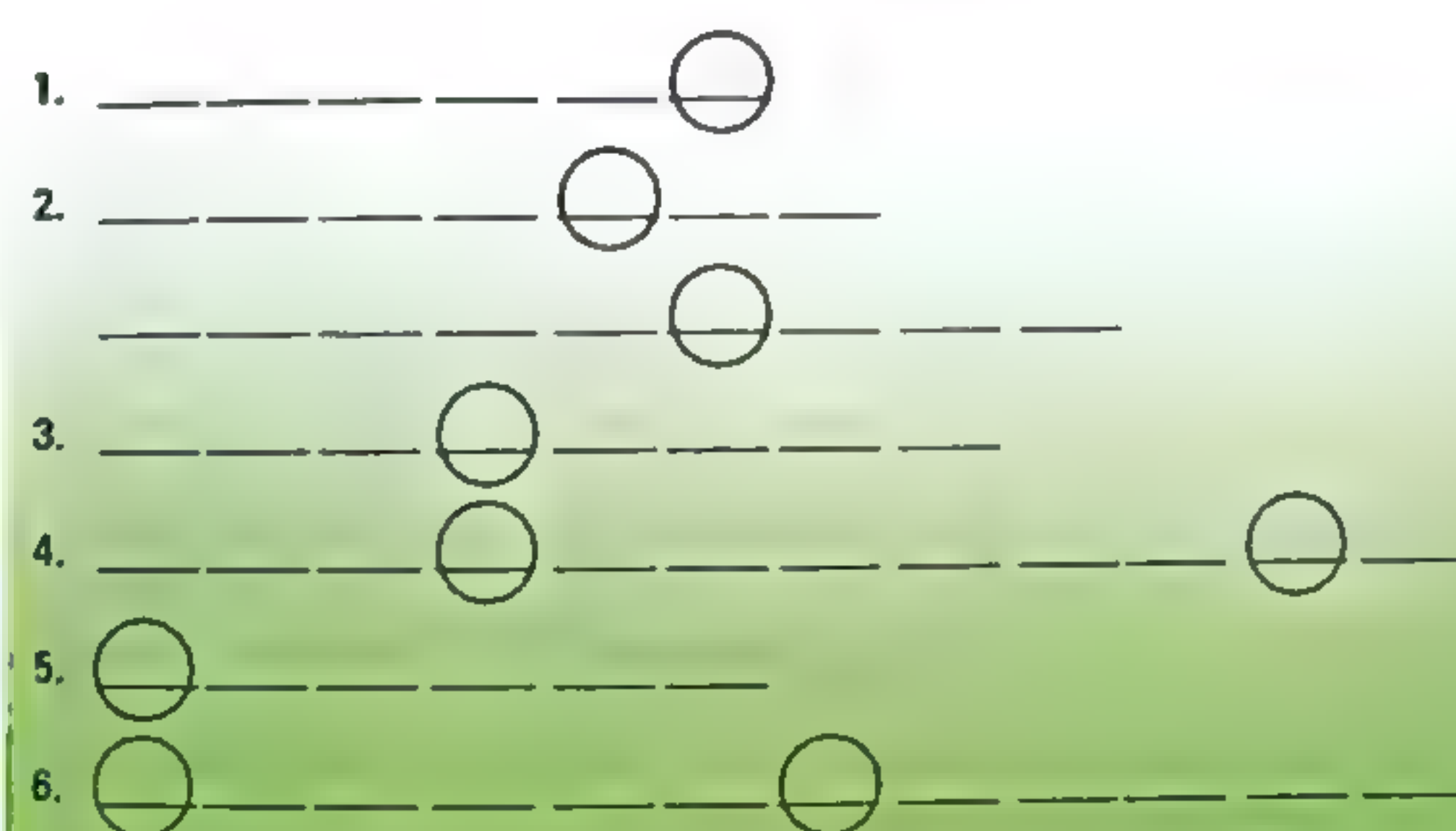
- ۱) schizophrenia is not a disorder
- ۲) the schizophrenic victims are limited to those with genetic transmission
- ۳) abnormal brain chemistry is one of the possible causes of schizophrenia
- ۴) symptoms of schizophrenia do not develop before twenties

۵. It can be inferred from the passage that families of schizophrenics .....

- ۱) are likely to share the burden of the ailment
- ۲) can help the victims to recover by sending them to institutes
- ۳) are forced to keep away from the treatment of the victims
- ۴) tend to be hardly affected by the disorder

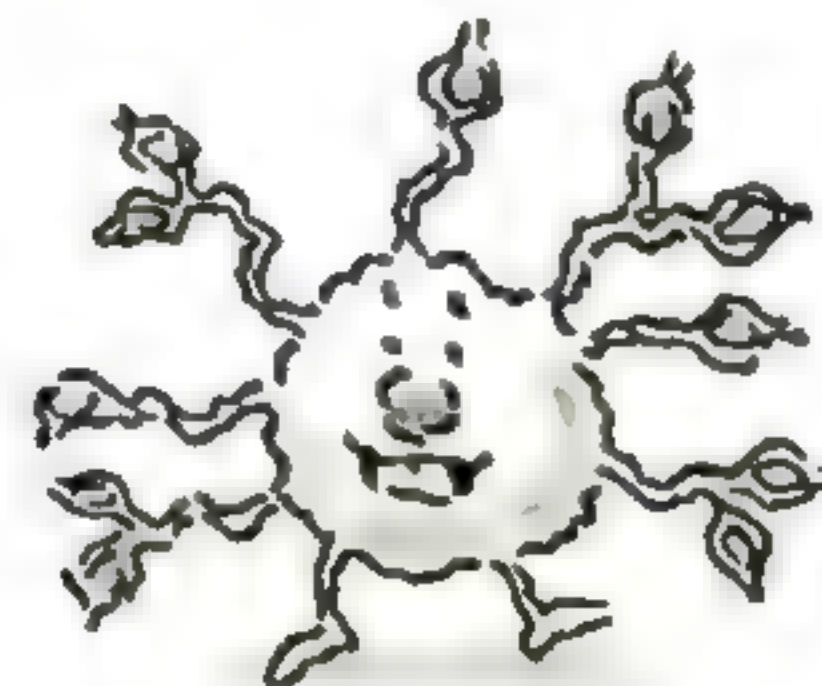
Answers: ۱. C / ۲. A / ۳. B / ۴. C / ۵. A

این آخرین بازی رو هم برو. باید کلمات رو بنویسی بعد حروف داخل دایره‌ها رو کنار هم بذاری تا به جواب سوال برسی!!



- 1. Highly specialized cell that detects and transmits stimuli electromechanically
- 2. Autonomic reflex center that maintains homeostasis, regulating respiratory, vasomotor, and cardiac functions
- 3. Cover and protect the cerebral cortex and spinal column
- 4. Controls or affects body temperature, appetite, water balance, pituitary secretions, and emotions
- 5. Acute, usually fatal CNS disease spread by animals to people through contaminated saliva, blood, or tissue
- 6. An inflammatory disorder of the brain commonly caused by the bite of an infected mosquito

I get a lot of support, nourishment, and protein from my nonneuronal buddy cells. Do you know which ones I mean?



- ۱. Neuron; ۲. Medulla oblongata; ۳. Meninges;
- ۴. Hypothalamus; ۵. Rabies; ۶. Encephalitis

Answer to puzzle: Neuroglia

دمن خیلی پشتیبانی و تغذیه و پروتئین از رفیق غیرنورونیم میگیرم. پاسخ میدونی اسم رفیقم چیه؟



## Reading Passage: (پزشکی فرداد ۱۴۰۰)

Teaching basic science should be incorporated into a larger concept of progress toward independence than that 'knowledge is an essential competence'. Educational leaders should be aware that a growing body of evidence supports the teaching of basic science as an essential step in solving complicated or unusual clinical problems, and not be discouraged by the fact that clinicians do not routinely mention the basic science facts that underlie our diagnostic reasoning. Little attention has yet been paid to articulating the role of basic science in teaching therapeutic management, but this author believes that teachers should continue to insist on an understanding of mechanisms as at least as important as epidemiologic studies. We should be aware that students are often still achieving understanding in a setting in which their teachers are focused on action (whether or not understanding is complete). Successful incorporation of science into medical practice through education depends on the effort to make this step an explicit priority.

- |   |   |   |
|---|---|---|
| ۱. The knowledge acquired in basic science is expected to ..... | ۲. As indicated by evidence, the instruction of basic science is a ..... in medicine. | ۳. The role of basic science in teaching therapeutic management ..... |
| ۱) find its significance in medical practice                    | ۱) new happening  | ۱) is to be diminished in future                                      |
| ۲) serve as a marginal competence                               | ۲) superficial task   | ۲) has not been well acknowledged                                     |
| ۳) be independent of medical progress                           | ۳) redundant work   | ۳) has been more than it deserves                                     |
| ۴) be a separate entity in medicine                             | ۴) significant phase  | ۴) is ruled out by new evidence                                       |
- 
- |  |   |
|--|---|
| ۴. Instruction in medical setting is said to be more ..... oriented. | ۵. The underlined "this" in the last sentence refers to ..... |
| A) competence  | ۱) understanding  |
| ۲) knowledge   | ۲) incorporation  |
| ۳) concept   | ۳) education  |
| ۴) action  | ۴) practice   |

Answers: ۱. A / ۲. D / ۳. B / ۴. D / ۵. B

## Reading Passage: (پزشکی شهریور ۱۴۰۰)

A great challenge to a sustainable healthcare is currently represented by the advancement of biomedical and digital science and technologies, which, jointly with the demographic trends and the expectations of citizens, are suspected to act to widen the gap between the available resources and the requirements for healthcare. In imaging future healthcare, in fact, some core technology-based components of a more personalized approach to health can be envisaged: the availability of comprehensive electronic health records, the use of biomarker assays including whole genome sequencing at key points in life course, and the continuous self-monitoring of lifestyle parameters using mobile connectivity systems. These components can be considered as a number of inputs and outputs comprising a system that aims to achieve better health for individuals and populations, through delivering more effective preventive and therapeutic interventions. The inputs are the data themselves from multiple sources, and knowledge abstracted from these that will be accrued by both health care providers and citizens themselves. The outputs of such Big Data will be the stratification of populations on the basis of their risk of particular diseases and/or their responsiveness to particular therapeutic interventions.



۱. The challenge our healthcare is facing today is ..... .
- ۱) yet to be recognized by the future healthcare professionals
- ۲) resolved by the current developments in science and technology
- ۳) inherited from the difference between resources and requirements
- ۴) linked to recent developments in science and technology
۲. A more personalized approach to health ..... .
- ۱) is not consistent with technology-based healthcare system
- ۲) is likely to take place in the future healthcare provision systems
- ۳) widens the gap between the existing resources and healthcare needs
- ۴) has nothing to do with whole genome sequencing at key points in life
۳. The underlined word 'inputs' refers to the data ..... delivered by care providers and citizens.
- ۱) comprising a system
- ۲) for therapeutic and preventive interventions
- ۳) from multiple stratified populations
- ۴) from sources in addition to those
۴. The stratification of population for health reasons would ..... .
- ۱) use the Big Data as the source
- ۲) reject the knowledge of the risk of particular diseases
- ۳) rely on citizens disregarding multiple data sources
- ۴) refute the data provided by care providers and citizens
۵. The passage mainly discusses the ..... .
- ۱) risk of specific diseases and people's reactions to interventions
- ۲) whole genome sequencing at key points in life course as available resources
- ۳) availability of comprehensive electronic health records collected in a Big Data
- ۴) challenges of the future healthcare system and their possible solutions

Answers: ۱. D / ۲. B / ۳. D / ۴. A / ۵. D

### Reading Passage: (پزشکی آبان ۱۴۰۰)

The climate and health education will empower future physicians as advocates who can represent the health implications of climate change to policymakers and legislators. By presenting the health, including mental health, basis for climate change mitigation and adaptation measures, physicians can help encourage policies that safeguard the health of patients. Climate change worsens existing health inequities. For example, urban heat islands disproportionately affect communities of color. Disproportionate exposure to extreme heat in these urban setting has been linked to the historical and structurally racist housing policy known as "redlining". Physicians can advocate policies that dismantle structural injustice, protect patients, and avoid worsening health inequities among at-risk populations. As such, content on climate change should be considered in designing curricula to address the large burden of climate-associated conditions that occur in at-risk, vulnerable, disadvantaged, medically complex, or special populations. These principles can be used to build foundational and specialized educational formats and experiences for residency training.



1. The writer would like the future physicians to ..... to policymakers and legislators.

- A) Introduce the consequences of climate change
- B) Use climate change as an excuse to explain medical issues
- C) Evade presenting the health implications of climate changes
- D) Promote their medical knowledge by offering the climate change.

2. Physicians can refer to issues like mental health to encourage policy makers to .....

- A) Adopt health-friendly policies for the climate
- B) Procure health facilities for health centers
- C) Mitigate safeguarding the health of patients
- D) Increase health budget irrespective of climate condition

3. "Redlining" is used to refer to the ..... Caused by disproportionate exposure to extreme heat.

- A) Climate-associated conditions
- B) Justice in medicine
- C) Pollution-free communities
- D) Racial inequity

4. According to the writer, the physicians are recommended to .....

- A) Have a role in reducing health inequities
- B) Ignore health injustice in favor of the science
- C) Get directly involved in policy-making and legislation
- D) Ask their patients to consider new policies for climate change (D)

5. One way suggested to avoid unusual climate change is to .....

- A) Include content on climate change in medical curricula
- B) Rely on the policymakers' experience in residency training
- C) Protect patients by teaching health inequities in communities
- D) Refer to legislations for new ways to alleviate structural injustice.

Answers: 1. A / 2. A / 3. D / 4. A / 5. A

### Reading Passage: (پزشکی آبان ۱۴۰۰)

Regarding the money invested in medicine and the resultant medical achievements, something has gone badly wrong. The money poured into scientific medicine since 1960 has provided nothing like the returns provided by the much smaller sums spent in the 25 years before that. The usual easy explanation is that the problems have become much more difficult. That may be true, but I have a strong suspicion that it is merely a self-service excuse.

The astonishing increases in the amounts of money spent on medical research have been matched by equally astonishing increases in the costs in the medical care system. Yet, those escalating costs have not been accompanied either by equivalent objective therapeutic success or by equivalent rises in patient satisfaction. Modern medicine, called scientific by both its defenders and its detractors, has not been able to change by very much morbidity or mortality for those who are over 40. What it has done is to ensure that dying, in comparable or even greater discomfort, costs vastly more than it did 25 years ago. Our patients die marvelously documented, technologically assisted deaths, but they die in much the same ways and at much the same ages as they did in 1960.



۱. The write states that ..... Is a self-serving excuse.

- ۱) The strong suspicion indicated before 1960.
- ۲) The reason given for fewer returns after 1960.
- ۳) Low investment in medicine before 1960.
- ۴) Too much money spent on medical projects after 1960.

۲. The author of this reading selection believes that .....

- ۱) More accomplishments in medicine are due to more investment
- ۲) Before 1960, medical scientists confronted more medical challenges
- ۳) Medical scientists have avoided accounting for the investment in medicine
- ۴) Despite spending more money, medicine has achieved less after 1960

۳. The author of this reading selection believes that .....

- ۱) More investment in medicine has failed to bring about better outcome.
- ۲) More objective therapeutic success result from more investment in medical projects
- ۳) Increases in the costs of the medical system have led to patients' dissatisfaction
- ۴) Both advocates and opponents of scientific medicine have made mistakes

۴. For people over 40, according to the author, .....

- ۱) Life expectancy has failed to increase
- ۲) Living has become much more difficult and expensive
- ۳) Hope for a longer life has already been achieved
- ۴) Documented, technologically assisted death is uncommon

۵. As for the accomplishments of scientific medicine after 1960, the tone of the writer in this reading selection is .....

- ۱) Partly indifferent
- ۲) Rather pessimistic
- ۳) Strongly supportive
- ۴) Quite impartial

Answers: 1.B / 2.D / 3.A / 4.A / 5.B

### Reading Passage: (پزشکی اسفند ۱۴۰۰)

In addition to eye movements, considerable research has been done on pupil dilation. In the fifteenth and sixteenth centuries in Italy, women used to put drops of belladonna (which literally means "beautiful woman") into their eyes to enlarge the pupils so that they would look more attractive. Contemporary research seems to support the intuitive logic of these women; dilated pupils are in fact judged to be more attractive than constricted pupils.

In one study, photographs of women were retouched. On one set the pupils were enlarged, and in another they were made smaller. Men were then shown the photographs and asked to judge the women's personalities. The photos of women with small pupils drew responses such as cold, hard, and selfish; those with dilated pupils drew responses such as feminine and soft. The male observers, however, could not verbalize the reasons for the different perceptions. Pupil dilation and reactions to change in the pupil size of others both seem to function below our level of awareness.

Pupil size is also indicative of one's interest and level of emotional arousal. One's pupils enlarge when one is interested in something or when one is emotionally aroused. Perhaps we judge dilated pupils as more attractive because we judge the individual's dilated pupils indicative of an interest in us.



1. Today's studies find a ..... between enlarged pupils and attractiveness.

- A) ambiguous relationship
- B) positive correlation
- C) harmful link
- D) potential risk

2. Interest in manipulating pupils for beauty reasons .....

- A) has been a recent happening
- B) is no longer common
- C) is socially disapproved
- D) has a long history

3. The underlined word "set" refers to .....

- A) a group of women
- B) a group of men
- C) a group of photographs
- D) a group of researchers

4. What does "the photographs of women were retouched" mean?

- A) People under study touched these photographs again.
- B) Another study was carried out on these photographs.
- C) Other photographs were taken of women in one study.
- D) In one study these photographs were changed slightly.

5. According to the passage why couldn't the observers give reasons for their different perception of the personality of women in the photos?

- A) Judgments on personalities are too difficult to offer on the basis of photos.
- B) The observers did not consciously know why they felt so.
- C) Perception tends to happen below the level of our awareness.
- D) Reacting to personalities can rarely be verbalized.

Answers: 1. B / 2. D / 3. C / 4. D / 5. B



